

**SITE ASSESSMENT REPORT
CELOTEX SITE
WILMINGTON, WILL COUNTY, ILLINOIS
TDD: S05-9802-002
DAN. 050301STVV**

EPA Region 5 Records Ctr.



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June 11, 1998

Prepared for:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Emergency Response Branch
77 West Jackson Boulevard
Chicago, Illinois 60604**

Prepared by:

Brendan P. McLennan

Brendan P. McLennan, START Project Manager

Date:

5/11/98

Reviewed by:

Mary J. Ripp

Mary Jane Ripp, START Assistant Program Manager

Date:

6/11/98

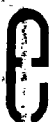
Approved by:

Thomas Kouris

Thomas Kouris, START Program Manager

Date:

6/11/98



International Specialists in the Environment

33 North Dearborn Street, Chicago, Illinois 60602
Tel. 312/578-9243, Fax: 312/578-9345

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1. Introduction

The Ecology and Environment, Inc. (E & E), Superfund Technical Assessment and Response Team (START) was tasked by the United States Environmental Protection Agency (U.S. EPA), under Technical Direction Document (TDD) number S05-9802-002, to conduct a site assessment at the Celotex site, located in Wilmington, Will County, Illinois. START was tasked to prepare and implement a safety plan; review background information; collect samples; subcontract analytical services; document conditions on site; conduct air monitoring; evaluate threats to human health and the environment; and make recommendations to U.S. EPA as to the potential need for removal action, further investigation, or other actions which may be prudent. The site assessment was performed in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 Code of Federal Regulations (CFR), Section 300.415, paragraph (b)(2) to evaluate on-site conditions and potential threats to human health and the environment. This report summarizes START site assessment activities.

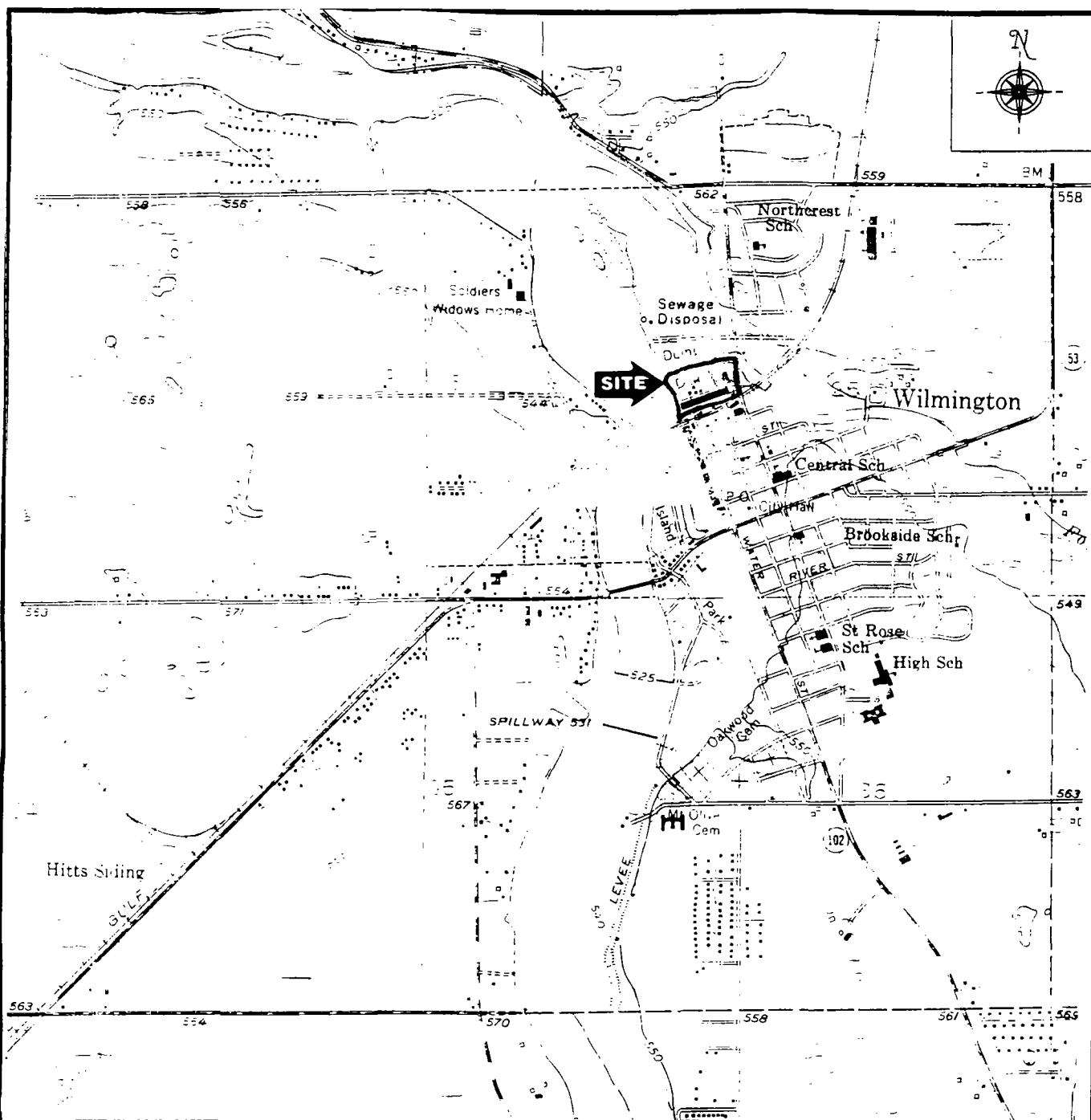
2. Site Background

The site is located at the northwest corner of Kankakee Street and Chicago Street in Wilmington, Illinois, at geographic coordinates: latitude 41°18'76.8" north and longitude 88°08'95.5" west (Figure 2-1). The site is bordered on the north by Forked Creek, on the west by the Kankakee River, on the south by Chicago Street, and to the east by Kankakee Street and industrial facilities. The site is partially surrounded by chain-linked fence, but public access is possible through the fence, many holes in the exterior of the building, and the facility gate is not secured.

The Celotex facility was constructed in the late 1950s, and was used for production of roofing materials and as a paper mill. Celotex ceased operations in the early 1980s. The facility was purchased by Ronald Cruise, Trust Agent, in 1987, but apparently has been acquired by Will County due to nonpayment of property taxes, in June 1997. Numerous complaints by residents of Wilmington concerning the condition of the facility initiated investigations to determine whether hazardous wastes are present at the facility. An inspection in 1994 indicated that approximately twenty-five 55-gallon drums were present, some of which were leaking unknown materials with a "solvent odor." Mr. Cruise was cited in 1994 for numerous violations regarding dumping at the site, and storage of suspected hazardous waste materials. No apparent actions resulted from these citations. The buildings have been used for gang-related activities and gang graffiti is present on outside walls.

The site, comprising approximately 6 acres, contains five steel buildings (designated 1 through 5) and two concrete, aboveground wastewater clarifiers. The buildings are in poor condition, with broken windows and deteriorating roofs, and contain miscellaneous equipment and debris. Building 1 has been used by the City of Wilmington for equipment storage, and currently has approximately twenty-five 55-gallon drums stored inside. Buildings 2, 3, and 4 contain miscellaneous debris, including insulation suspected of containing asbestos. A section of Building 3 was used by a local artist as a workshop. Building 5 is apparently used for storage by a trucking firm. A landfill containing asphalt materials used by the Celotex corporation, is located in the northwest section of the site, adjacent to the Kankakee River.

Bundles of shingles have also been observed half buried along the southern bank of Forked Creek. The extent of the asphalt runs along the southern side of Forked Creek, and along the majority of the Celotex property that runs along the eastern side of the Kankakee River (Figure 2-2). The landfill was the source of numerous fires when Celotex was in operation. Another landfill, of approximately 40 acres, exists north of Forked Creek. (This area was not included in this assessment). Site background information was obtained from the Wilmington Free Press; a narrative written by James Haennicke of the Illinois Environmental Protection Agency (IEPA); information supplied by Jonathan Jones, a representative from the Wilmington Water Plant; and by site reconnaissance.



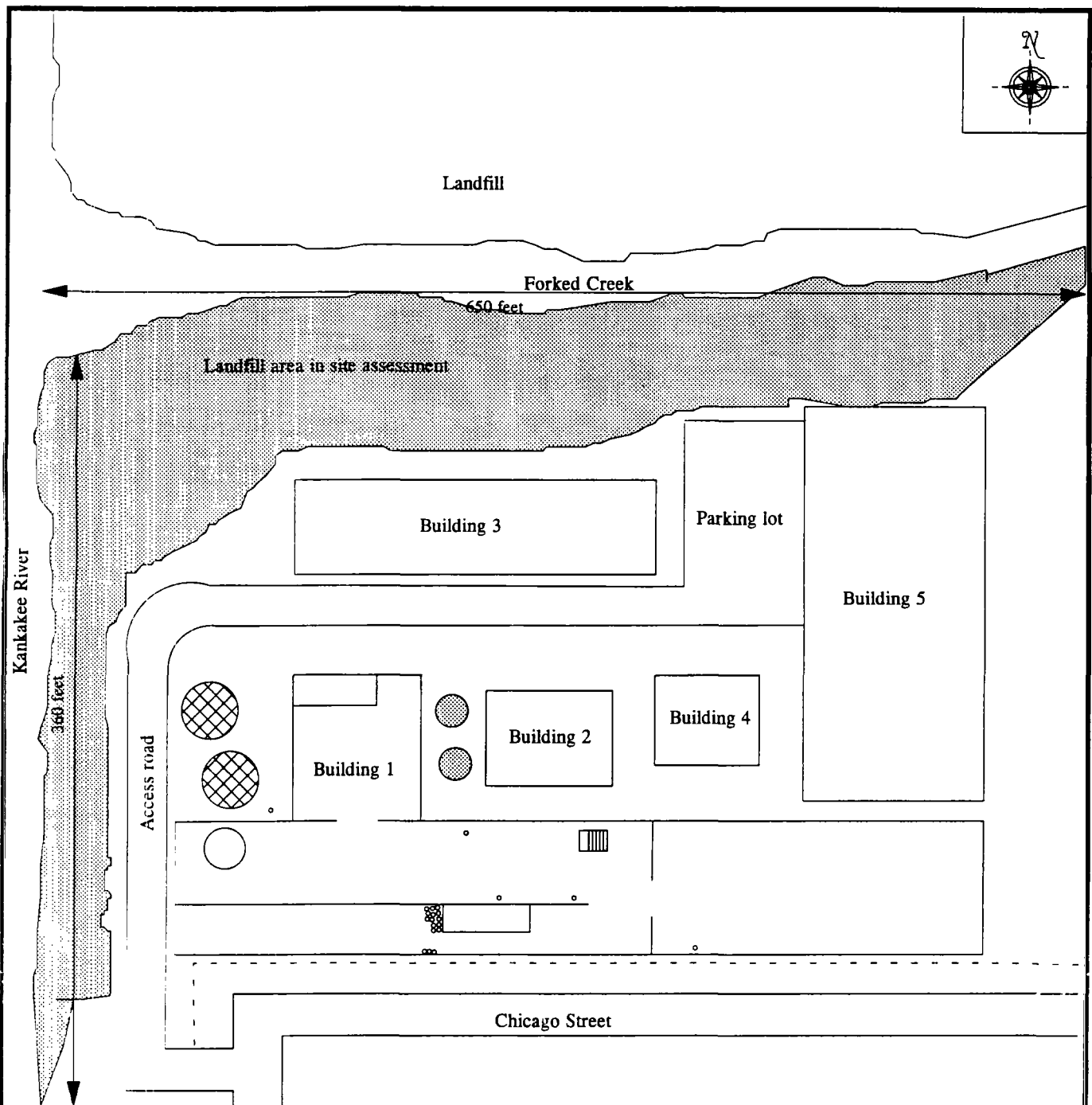
Quadrangle location









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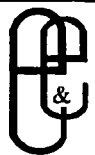
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33 North Dearborn Street, Chicago, Illinois 60602

TITLE	Site Location Map	FIGURE	2-1
SITE	Celotex	SCALE	1:24,000
CITY	Wilmington	STATE	Illinois
SOURCE	U.S.G.S. 7.5 minute series Topographical Map Wilmington, Illinois Quadrangle	TDD	S05-9802-002
		DATE	1954
		REVISED	1973



Legend

-  Tank
-  Fencing
-  Drum
-  Stairs
-  Clairifier
-  Asphalt



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TITLE	Site Features Map	FIGURE	2-2
SITE	Celotex	SCALE	Not to scale
CITY	Wilmington	STATE	Illinois
SOURCE	ecology and environment, inc.	TDD	S05-9802-002
		DATE	1998

3. Site Assessment

On September 26, 1997, START members Brendan McLennan and Nabil Fayoumi, and U.S. EPA On-Scene Coordinators (OSCs) Keith Lesniak and Sam Borries, mobilized to the Celotex site, arriving at 0940 hours. Weather conditions included sunny skies and temperature around 75°F. A health and safety meeting was conducted upon arrival at the site, prior to site entry. A decontamination and setup area was established in the parking lot to the north of Building 1. Background air monitoring was performed using a combustible gas indicator (CGI) and photoionization detector (PID). Both instruments were calibrated prior to use. No explosive gases or organic vapor mixtures were detected above background levels in the ambient air.

At 1000 hours, a site reconnaissance was performed to determine the condition of buildings and identify sample collection areas. Building 1 is the largest building on site and is in the worst condition of all the buildings, with crumbling interior walls and a deteriorated roof. All 55-gallon drums found on site were in Building 1. Building 2 is a small corrugated steel structure located northeast of Building 1. Garbage bags containing asbestos insulation were observed in the northwest corner of the building. Inside Building 3, there were various pieces of machinery, as well as desks and other debris from the previous business that leased the building. A section of Building 3 is being utilized by local artist Patrick Baron as a workshop. All entrances to Building 4 were boarded up and the building could not be entered during the site assessment. Building 5 is currently used by a trucking company and was not entered. An asphalt mass, estimated to contain 30,000 cubic yards, was present, in the northwest corner of the site in the old landfill, adjacent to the eastern side of the Kankakee River and along the southern side of Forked Creek, to the Kankakee Street Bridge. In all, over 1,000 feet of river and creekbank contained asphalt, either in the water or near the water, that at times of high waters could be inundated. An oily sheen was observed on the water surface, adjacent to the asphalt material. In addition to the asphalt in the old landfill, there were two additional asphalt masses on the property, as well as a layer of asphalt covering the basement floor in Building 1.

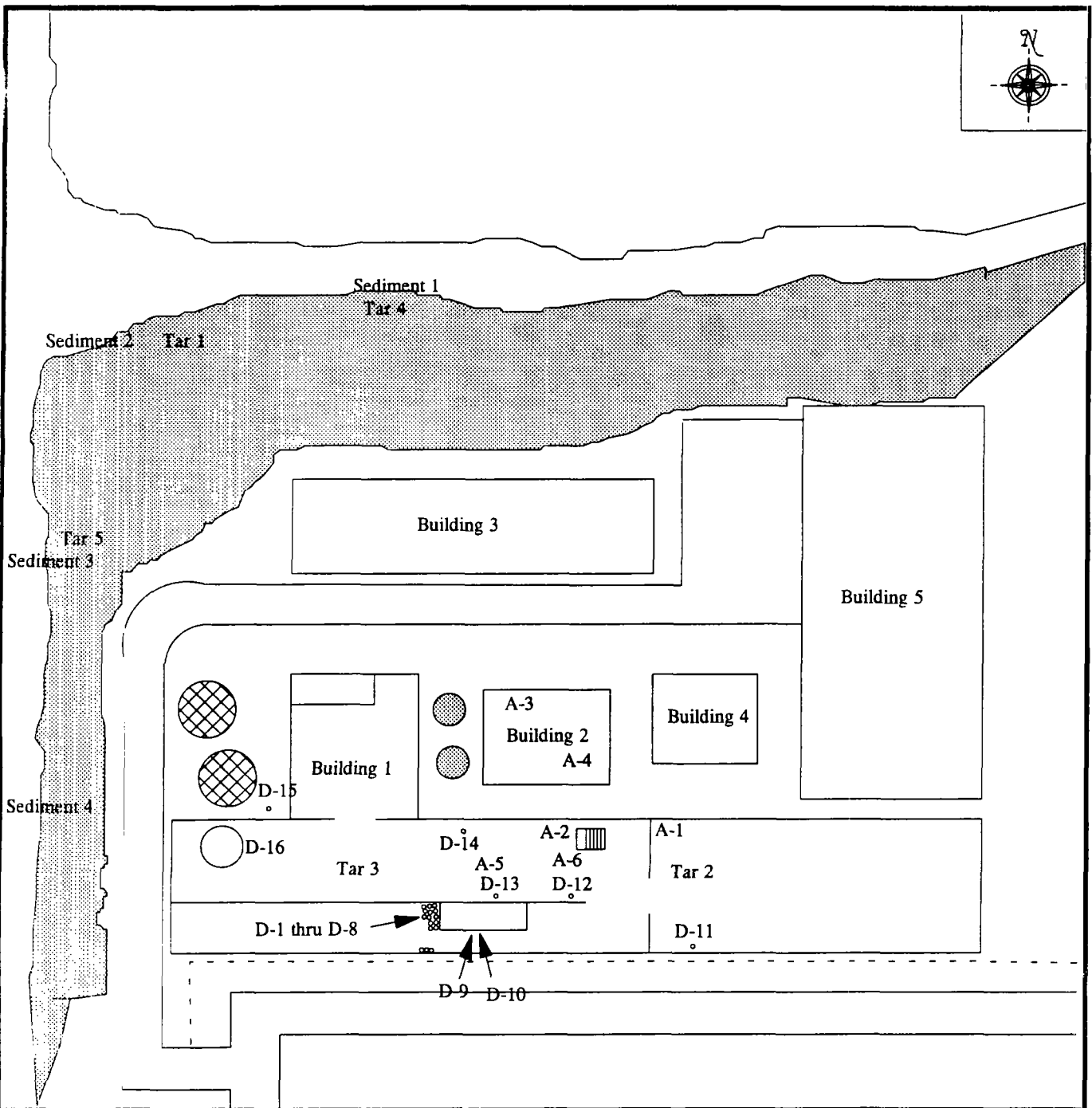
At 1020 hours, START members McLennan and Fayoumi, and OSCs Borries and Lesniak, donned Level C personal protection and entered the site to conduct additional site reconnaissance, and to collect samples from drums and areas identified during the initial site reconnaissance. While OSCs Borries and Lesniak investigated the site, START members McLennan and Fayoumi began collecting samples from 55-gallon steel drums, which were located in Building 1 (Figure 3-1). Using a drum thief, sample D-1, a thick brown liquid, was collected from a drum in the south central area of Building 1 (Figure 3-1); air monitoring of the drum contents indicated no elevated PID or CGI readings. Using a drum thief, sample D-2, a clear yellowish/brown liquid, was collected from a drum in the south central area of Building 1; air monitoring of the drum contents indicated no elevated PID or CGI readings. Using a drum thief, sample D-3, a clear orange/yellow liquid, was collected from a drum in the south central area of Building 1; air monitoring indicated no elevated PID or CGI readings. Using a drum thief, sample D-4, a thick brown liquid, was collected from a drum in the south central area of Building 1; air monitoring indicated no elevated PID or CGI readings. Using a drum thief, sample D-5, a thick brown liquid, was collected from a drum in the south central area of Building 1; air monitoring indicated no elevated PID or CGI readings. Using a drum thief, sample D-6, a light brown liquid, was collected from a drum in the south central area of Building 1; air monitoring indicated no elevated PID or CGI readings. Using a drum thief, sample D-7, a clear, viscous liquid, was collected from a drum in the south central area of Building 1; air monitoring indicated no elevated PID or CGI readings. Using a stainless steel trowel, sample D-8, a white powder, was collected from a drum in the south central area of Building 1; air monitoring indicated no elevated PID or CGI readings. Using a drum thief, sample D-9, a thick brown liquid, was collected from a 5-gallon pail in the south central area of Building 1; air monitoring indicated no elevated PID or CGI readings. Using a drum thief, sample D-10, a thick brown liquid, was collected from a 5-gallon pail in the south central area of Building 1; air monitoring indicated no elevated PID or CGI readings. Using a drum thief, sample D-11, a cloudy brownish liquid, was collected from a drum in the southeast corner of Building 1; air monitoring indicated no elevated PID or CGI readings. Using a drum thief, sample D-12, a brown oily liquid, was collected from a plastic drum in the north central area of Building 1; air monitoring indicated no elevated PID or CGI readings. Using a drum thief, sample D-13, a brown oily liquid, was collected from a drum in the north central area of Building 1; air monitoring indicated a maximum PID reading of 2,000 parts per million (ppm), there was no elevated CGI reading. Using a drum thief, sample D-14, a thick brown liquid, was collected from a drum in the north central area of Building 1; air monitoring indicated no elevated PID or CGI readings. Using a drum thief, sample D-15, a clear liquid, was collected from a drum outside of Building 1 on the western side; air monitoring

indicated no elevated PID or CGI readings. Using a stainless steel trowel, sample D-16, a white crystalline solid, was collected from a tank in the northwest corner of Building 1; air monitoring indicated no elevated PID or CGI readings. Sample D-17 was collected from a composite of drums 2, 3, 9, 10, 12, and 13. Sample Tar 1 was collected from the asphalt landfill adjacent to the Kankakee River. Sample A-1, an asbestos-like material, was collected in the basement of Building 1, on the north central side. Sample A-2, an asbestos-like material, was collected on the main floor of Building 1, on the north central side. Sample A-3, an asbestos-like material, was collected in the northwest corner of Building 2. Sample A-4, an asbestos-like material, was collected in the eastern area of Building 2. All drum samples and asbestos samples were collected in 4-ounce glass jars, and the tar samples were collected in two 16-ounce glass bottles and two 4-ounce glass bottles, and were sent to American Environmental Network (AEN) Laboratories in Schaumburg, Illinois, for analyses under analytical TDD S05-9709-805.

On December 11, 1997, OSC Fred Bartman requested that START return to site and collect an additional sample of the asphalt and asbestos in the basement of Building 1. START John Nordine and OSC Bartman mobilized to the Celotex site to allow OSC Bartman to view the site and to collect the samples. Samples Tar 2 and Tar 3 were collected in the basement of Building 1 and were a black asphalt-like substance. Samples A-5 and A-6 were collected from pipe wrap in the basement of Building 1. The samples were collected in 16-ounce glass bottles and shipped to National Environmental Testing, Inc. (NET), in Bartlett, Illinois, for analyses under analytical TDD S05-9712-804.

On February 17, 1998, OSC Bartman requested that START return to site and collect samples of asphalt and sediment samples along Forked Creek and the Kankakee River. Two asphalt samples were collected, Tar 4 and Tar 5. Sample Tar 4 was collected at the midpoint of the landfill along Forked Creek. Sample Tar 5 was collected 300 feet south of the mouth of Forked Creek on the bank of the Kankakee River. Six sediment samples were collected, Sediment 1 through Sediment 6. Four samples were collected in the area of asphalt contamination and two samples were collected as background samples upstream of the contamination, on both the Kankakee River and Forked Creek. Sample Sediment 1 was collected at the midpoint of the landfill along Forked Creek. Sample Sediment 2 was collected at the mouth of Forked Creek into the Kankakee River. Sample Sediment 3 was collected along the Kankakee River 200 feet south of the mouth of Forked Creek. Sample Sediment 4 was collected along the Kankakee River 400 feet south of the mouth of Forked Creek. Sample Sediment 5 was collected east of the Kankakee Street Bridge as a background sample for Forked Creek, upstream of the asphalt contamination. Sample Sediment 6 was collected as a background sample south of the site at an outcropping in the Kankakee River, 500 yards upstream (south) of the asphalt contamination. The samples were collected in

16-ounce glass bottles and shipped to American Environmental Network, Inc. (AEN), in Schaumburg, Illinois, for analyses under analytical TDD S05-9802-807.



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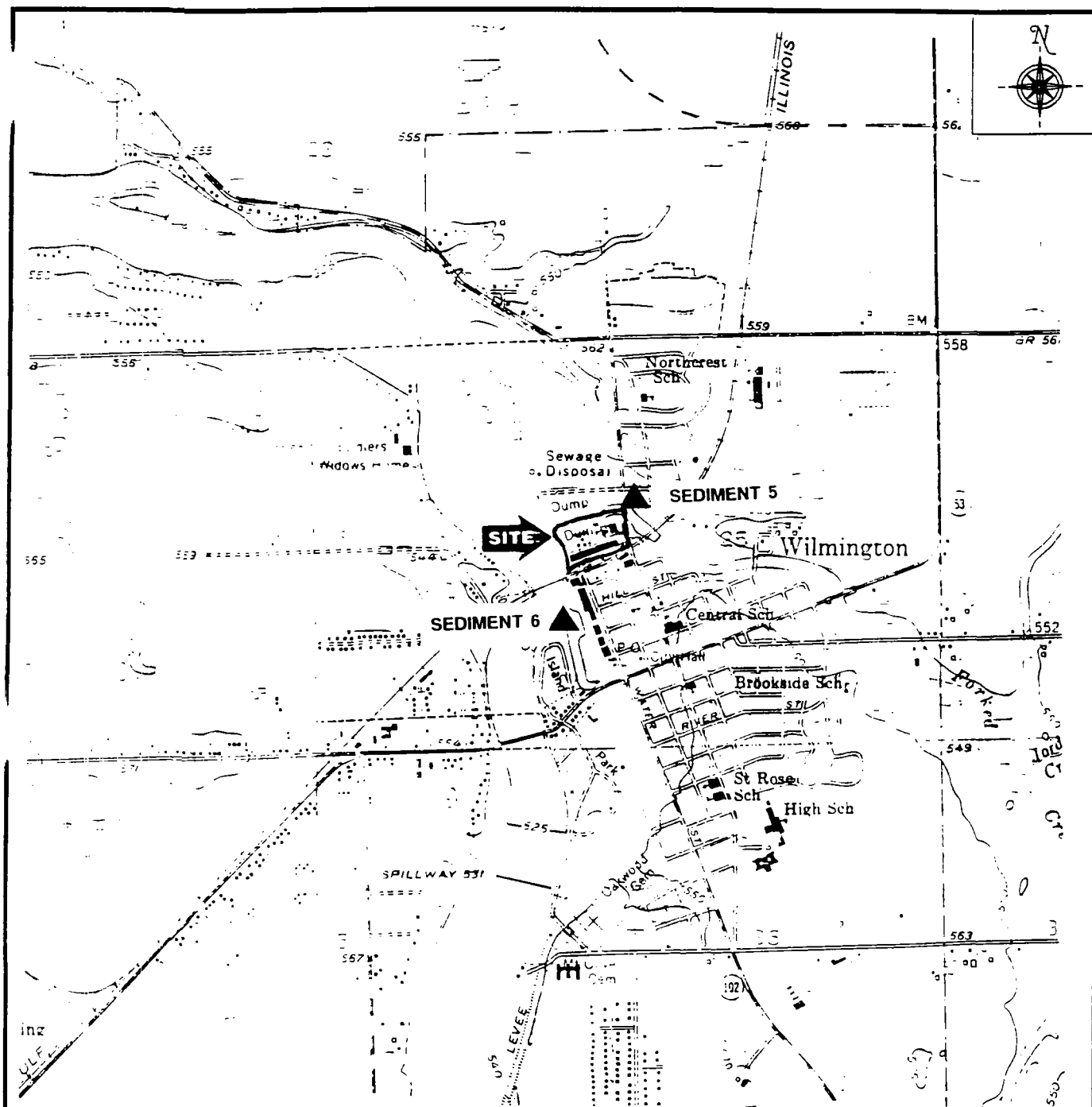
A - Asbestos sample
 D - Drum sample
 Tar - Tar/asphalt sample
 Note: Samples A-1, A-5, A-6, Tar 2, and Tar 3 located in the basement.



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TITLE	Sample Location Map	FIGURE	3-1
SITE	Celotex	SCALE	Not to scale
CITY	Wilmington	STATE	Illinois
SOURCE	ecology and environment, inc.	TDD	S05-9802-002
		DATE	1998



Legend



Background sample location



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TITLE	Background Sample Location Map	FIGURE	3-2
SITE	Celotex	SCALE	Not to scale
CITY	Wilmington	STATE	Illinois
SOURCE	ecology and environment, inc.	TDD	S05-9802-002
		DATE	1998

4. Analytical Results

The first sampling event was on September 26, 1997. The drum samples (D-1 through D-17) were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), Resource Conservation and Recovery Act (RCRA) metals, F-listed solvents, pH, and flash point. Sample Tar 1 was analyzed for SVOCs, RCRA metals, PCBs, and asbestos. Samples A-1 through A-4 were analyzed for asbestos only. For the second sampling event, on December 11, 1997, samples Tar 2 and Tar 3 were analyzed for polynuclear aromatic hydrocarbons (PAHs), PCBs, and RCRA metals. Samples A-5 and A-6 were analyzed for asbestos using polarized light microscopy. For the third sampling event on February 17, 1998, samples Tar 4 and Tar 5 were analyzed for asbestos, PAHs, and total petroleum hydrocarbons (TPHs). Samples Sediment 1 through Sediment 6 were analyzed for PAHs and TPHs. A summary of selected results are presented in Tables 4-1, 4-2, and 4-3. The pH of samples D-1, D-4, D-5, D-6, D-7, D-12, and D-16 exceeded 12.5 standard units, and therefore exhibit the characteristic of corrosivity, which designate these wastes as hazardous. The flash points of D-2, D-13, and D-14 were less than 140°F; the contents of these drums are considered hazardous waste, having exhibited the characteristic of ignitability. PCBs were detected in sample Tar 2 located in the basement of Building 1. PCBs were not detected above detection limits in any of the other samples analyzed for PCBs (D-17, Tar 1, and Tar 3). Samples A-1, A-3, A-4, and A-6 tested positive for asbestos using polarized light microscopy (Tables 4-1 and 4-2). Samples Sediment 1 through Sediment 4, and samples Tar 4 and Tar 5 tested positive for TPHs (Table 4-3).

Table 4-1

SUMMARY OF ANALYTICAL RESULTS (SEPTEMBER 26, 1997)
CELOTEX SITE
WILMINGTON, WILL COUNTY, ILLINOIS

Parameter	Sample Designation									
	D-1	D-2	D-3	D-4	D-5	D-6	D-7	D-8	D-9	D-10
pH (standard units)	> 14.0	NA	NA	> 14.0	> 14.0	13.4	13.6	9.54	NA	NA
Flash Point (°F)	NA	134	> 200	NA	NA	NA	NA	NA	> 200	> 200
F-Listed Solvents	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
RCRA Metals (mg/L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds (μg/kg)										
Ethyl benzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (mg/kg)										
Napthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methyl-napthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs (mg/kg)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Asbestos (%)										
Chrysotile	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Amosite	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 4-1

**SUMMARY OF ANALYTICAL RESULTS (SEPTEMBER 26, 1997)
CELOTEX SITE
WILMINGTON, WILL COUNTY, ILLINOIS**

Parameter	Sample Designation									
	D-12	D-13	D-14	D-16	D-17	Tar 1	A-1	A-2	A-3	A-4
pH (standard units)	> 14.0	NA	NA	13.7	NA	NA	NA	NA	NA	NA
Flash Point (°F)	> 200	81	67	NA	NA	NA	NA	NA	NA	NA
F-Listed Solvents	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RCRA Metals (mg/L)	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
Volatile Organic Compounds (µg/kg)										
Ethyl benzene	NA	35,000	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes	NA	170,000	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	NA	8,300	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (mg/kg)										
Napthalene	NA	96	NA	NA	NA	NA	NA	NA	NA	NA
2-Methyl-napthalene	NA	27	NA	NA	NA	NA	NA	NA	NA	NA
PCBs (mg/kg)	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA
Asbestos (%)										
Chrysotile	NA	NA	NA	NA	NA	ND	35-40	ND	5-10	15-20
Amosite	NA	NA	NA	NA	NA	NA	ND	ND	ND	10-15

Key:

NA	=	Not analyzed.
ND	=	Not detected.
°F	=	Degrees fahrenheit.
µg/kg	=	Micrograms per kilogram.
mg/kg	=	Milligrams per kilogram.
>	=	Greater than.

Source: American Environmental Network, Schaumburg, Illinois (Analytical TDD S05-9709-805).

<p align="center">Table 4-2</p> <p align="center">SUMMARY OF ANALYTICAL RESULTS (DECEMBER 11, 1997)</p> <p align="center">CELOTEX SITE</p> <p align="center">WILMINGTON, WILL COUNTY, ILLINOIS</p>				
Parameter	Sample Designation			
	Tar 2	Tar 3	A-5	A-6
RCRA Metals (mg/kg)				
Arsenic	3.0	2.8	NA	NA
Barium	32	24	NA	NA
Cadmium	2.0	0.78	NA	NA
Chromium	50	20	NA	NA
Lead	100	23	NA	NA
Mercury	<0.042	<0.048	NA	NA
Selenium	<0.26	<0.30	NA	NA
Silver	<2.1	<2.4	NA	NA
Polyaromatic Hydrocarbons (mg/kg)	ND	ND	NA	NA
Polychlorinated Biphenyls (µg/kg)				
PCB-1016	<5,000	<20,000	NA	NA
PCB-1221	<5,000	<20,000	NA	NA
PCB-1232	<5,000	<20,000	NA	NA
PCB-1242	10,100	<20,000	NA	NA
PCB-1248	<5,000	<20,000	NA	NA
PCB-1254	<5,000	<20,000	NA	NA
PCB-1260	<5,000	<20,000	NA	NA
Asbestos (%)				
Actinolite/ tremolite	NA	NA	ND	ND
Amosite	NA	NA	ND	25
Anthophyllite	NA	NA	ND	ND
Chrysotile	NA	NA	ND	ND
Crocidolite	NA	NA	ND	20
Other components	NA	NA	100	55

Key:

NA	=	Not analyzed.
ND	=	Not detected.
$\mu\text{g/kg}$	=	Micrograms per kilogram.
mg/kg	=	Milligrams per kilogram.
<	=	Less than.

Source: National Environmental Testing, Bartlett, Illinois (Analytical TDD S05-9712-804).

<p align="center">Table 4-3</p> <p align="center">SUMMARY OF ANALYTICAL RESULTS (FEBRUARY 17, 1998)</p> <p align="center">CELOTEX SITE</p> <p align="center">WILMINGTON, WILL COUNTY, ILLINOIS</p>								
Parameter	Sample Designation							
	Tar 4	Tar 5	Sediment 1	Sediment 2	Sediment 3	Sediment 4	Sediment 5	Sediment 6
Polynuclear Aromatic Hydrocarbons	ND	ND	ND	ND	ND	ND	ND	ND
Total Petroleum Hydrocarbons (mg/kg)	47,200	26,900	84.8	72.1	979	55.4	ND	ND
Asbestos	ND	ND	NA	NA	NA	NA	NA	NA

Key:

NA = Not analyzed.
 ND = Not detected.
 mg/kg = Milligrams per kilogram.

Source: American Environmental Network, Schaumburg, Illinois (Analytical TDD S05-9802-807).

5. Threats to Human Health and the Environment

Paragraph (b)(2) of Part 300.415 of the NCP lists factors to be considered when determining the appropriateness of a potential removal action at a site. The following discussion presents a summary of those factors for the Celotex site in two parts, Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) waste and Oil Pollution Act (OPA) waste.

CERCLA Waste

- **Actual or potential exposure to hazardous substances or pollutants or contaminants by nearby populations, animals, or food chains.** Analytical results from the drum samples collected on August 26, 1997, indicate the presence of hazardous substances at the Celotex site. Both ignitable and corrosive liquids were found in drum samples. Highly caustic liquids exist in samples D-1, D-4, D-5, D-6, D-7, D-12, and D-17. If ingested, caustic liquids can cause internal lesions and edema. Death can result due to the potential complications, such as asphyxia, shock, hemorrhage, or infection. Dermal exposure to less concentrated caustic solutions can cause irritation and dermatitis. Asbestos was also found in open bags and represents a carcinogenic threat to exposed populations. Because the Celotex facility is unsecured and located within the city of Wilmington, nearby residents can be exposed to hazardous materials present on site. Exposure to PCBs can result in chloracne (a long-lasting and disfiguring skin disease); impairment of liver function; a variety of neurobehavioral symptoms; menstrual disorders; and an increased incidence of cancer. The Celotex site is unsecured and easily accessible to the public, as evidenced by numerous incidences of graffiti on the property and inside the buildings, and can be exposed to the PCB contaminated asphalt in the basement.
- **Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release.** START observed approximately twenty-five 55-gallon drums during the site reconnaissance. The drums contain liquids that exhibit both corrosive and ignitable characteristics. Some drums appeared to have leaked contents.
- **Weather conditions that may cause pollutants or contaminants to migrate or be released.** All on-site contaminants are found in buildings with roofs that are in

a deteriorated state, which could allow migration of contaminants due to the weather. Exposure to the weather can result in additional degradation of the 55-gallon drums, which could cause further migration of contaminants if hazardous substances leaked.

- **Threat of fire or explosion.** Paragraph (a)(1) of Part 261.21 of 40 CFR states that a substance that exhibits a flash point of less than 140°F is ignitable. Samples D-2, D-13, and D-14 exhibit flash points of 134°F, 81°F, and 67°F, respectively, and are therefore, ignitable substances.

OPA Waste

The asphalt material is leaching into nearby surface waters as evidenced by oil sheens on the water and analytical results of TPHs in sediment. The asphalt is classified as an oil under OPA. The asphalt can cause much of the same damage as an oil release, such as damage to fish tissue, can kill benthic organisms, and can kill waterfowl. U.S. EPA has the authority to remove the discharge or to mitigate or prevent the threat of discharge under Section 311(c)(2) of the Clean Water Act (CWA).

6. Summary

Based upon the observations made during the U.S. EPA site assessment and analytical results from samples collected at the Celotex site, a CERCLA and OPA removal action is warranted. The presence of the threats addressed in Section 5 will require the removal of approximately 25 hazardous and nonhazardous drums, asbestos-containing material, and removal of 30,000 cubic yards of asphalt material from the on-site landfill.

At this time, the following specific actions are proposed to eliminate the threats listed in Section 5:

- 1) Drums will be segregated and sampled; following analysis, drums will be categorized for disposal;
- 2) Removal and disposal of all drums containing hazardous and nonhazardous materials;
- 3) Removal and disposal of all asbestos-containing material;
- 4) Removal and disposal of all asphalt-containing material from the on-site landfill.

The removal action is estimated to be completed in 70 days and will include the removal of all hazardous drums, nonhazardous drums, asbestos-containing material, and asphalt.

7. Cost Estimate

A site estimate for the removal of solid wastes at the Celotex site has been based on several assumptions. For the cost estimate, it was estimated that 10 drums of hazardous materials, 15 drums of nonhazardous materials, 40 yards of asbestos-containing materials, and 30,000 cubic yards of asphalt material would need to be removed and disposed. The cost estimate has been divided into two parts: one estimate for the removal of CERCLA waste and one estimate for the removal of OPA waste.

Prior to final disposal, all waste will be representatively sampled and analyzed for waste disposal parameters. The cleanup cost estimate, calculated using the Removal Cost Management System (RCMS) software version 4.2, includes cleanup contractor, U.S. EPA, and START costs, and totals approximately \$61,400 for the CERCLA waste removal and \$2,357,392 for the OPA waste removal. These costs are based on the above-mentioned assumptions and those that follow:

- The site work will be completed in seventy-five 10-hour days. Four days will be necessary for mobilization and demobilization. Site preparation and staging of the drums will take approximately three days. Sampling and analysis of the drums will take approximately two days. The coordination, preparation, and loading of the drums for off-site transportation and disposal will take approximately two days. Excavation and disposal of the asphalt waste will take 75 days. The removal of the OPA waste and CERCLA waste will occur simultaneously.
- All cleanup contractor rates for personnel and equipment are those of the Emergency Response Cleanup Services (ERCS) contractor.
- ERCS personnel will consist of one response manager, one foreman, eight equipment operators/laborers, and one field clerk. The START contractor will provide one civil engineer. U.S. EPA will provide one OSC.

Appendix A

Photodocumentation



SITE: Celotex

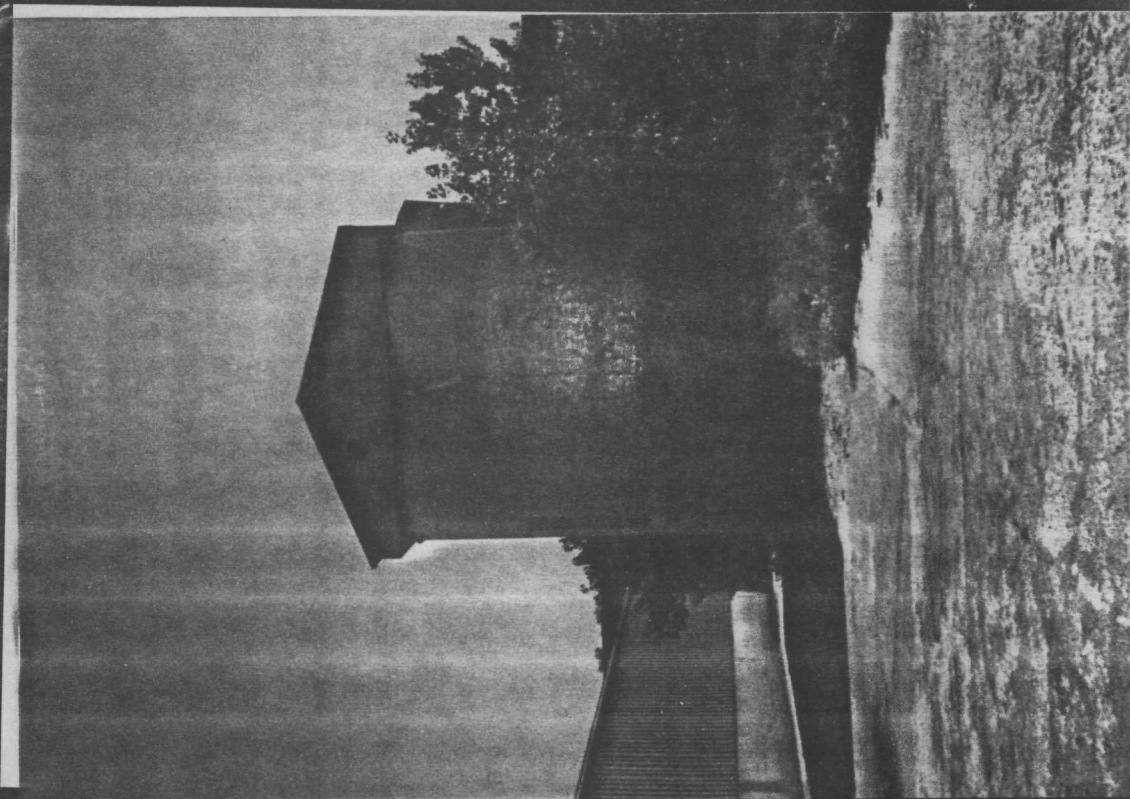
DATE: August 26, 1997

TIME: 1000

LOCATION: Wilmington, IL **DIRECTION:** East

PHOTOGRAPHER: Brendan McLennan

SUBJECT: View of Building 5 with visible graffiti.



SITE: Celotex

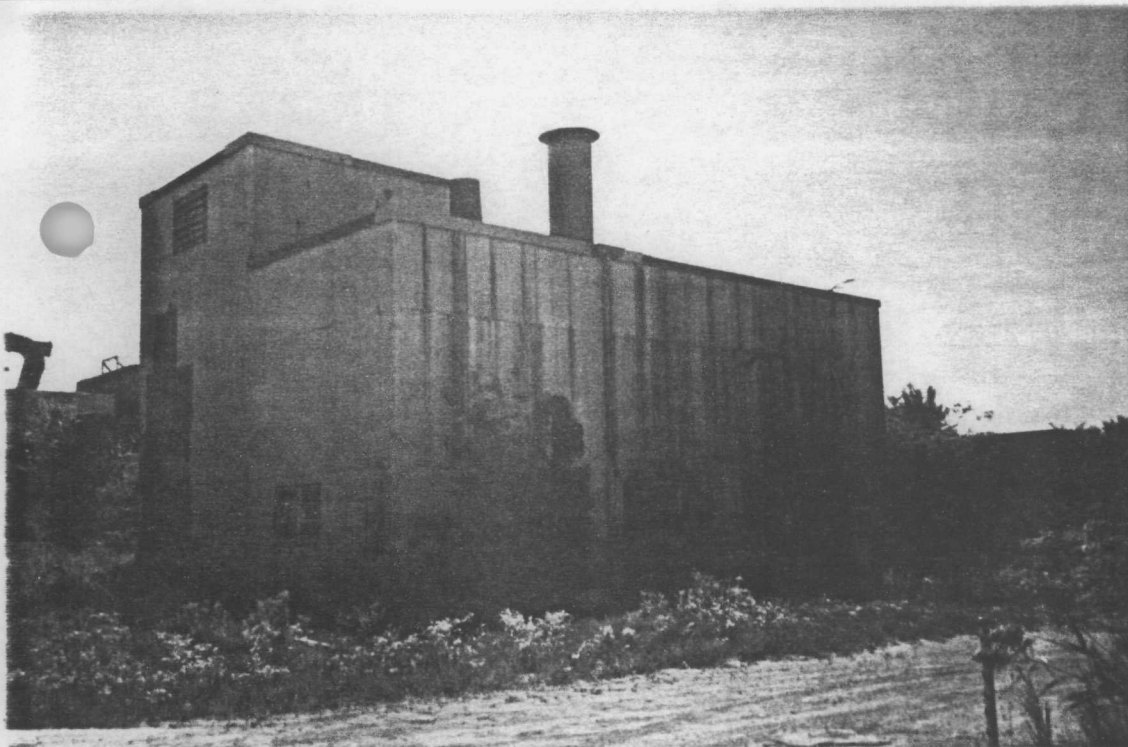
DATE: August 26, 1997

TIME: 1002

LOCATION: Wilmington, IL **DIRECTION:** South

PHOTOGRAPHER: Brendan McLennan

SUBJECT: View of Building 4.



SITE: Celotex
LOCATION: Wilmington, IL
SUBJECT: View of Building 2.

DATE: August 26, 1997
DIRECTION: South

TIME: 1003
PHOTOGRAPHER: Brendan McLennan



SITE: Celotex
LOCATION: Wilmington, IL
SUBJECT: Asbestos-containing material in deteriorated bags.

DATE: August 26, 1997
DIRECTION: North

TIME: 1007
PHOTOGRAPHER: Brendan McLennan



SITE: Celotex

DATE: August 26, 1997

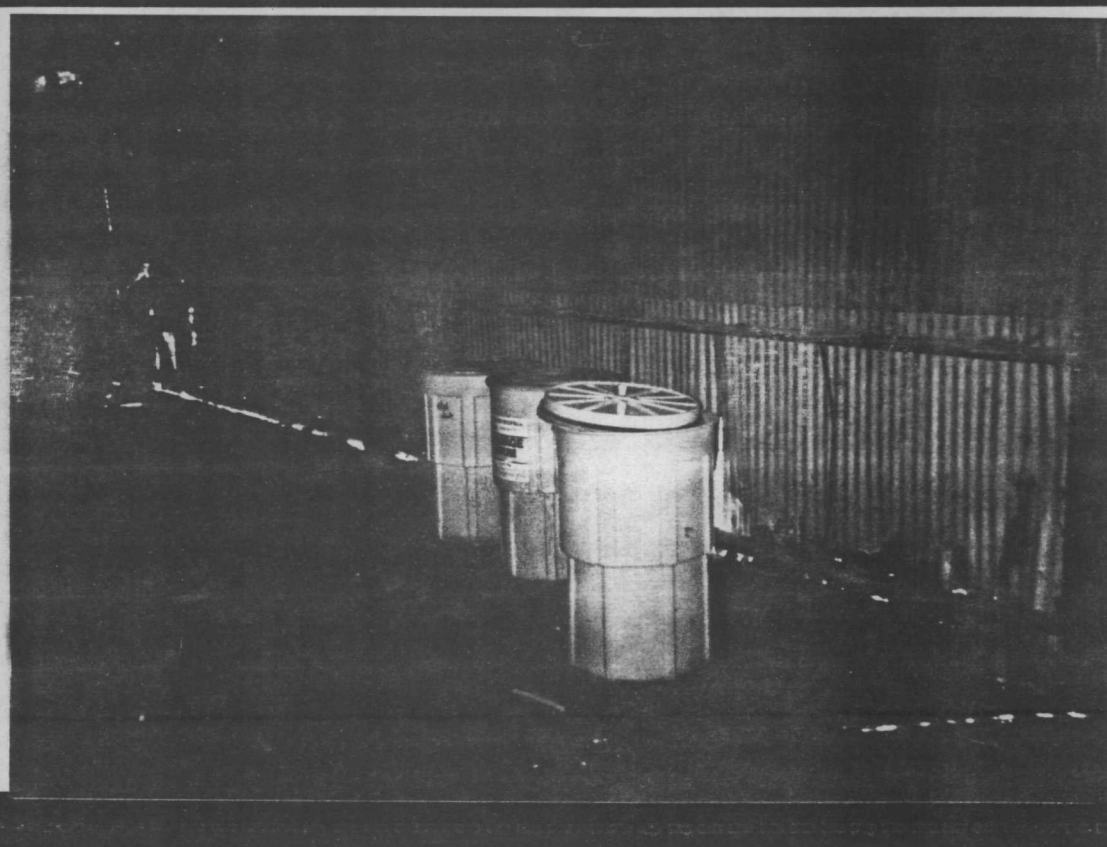
TIME: 1100

LOCATION: Wilmington, IL

DIRECTION: Northeast

PHOTOGRAPHER: Brendan McLennan

SUBJECT: Location of sample A-2.



SITE: Celotex

DATE: August 26, 1997

TIME: 1105

LOCATION: Wilmington, IL

DIRECTION: Southeast

PHOTOGRAPHER: Brendan McLennan

SUBJECT: Drum overpacks.



SITE: Celotex

DATE: August 26, 1997

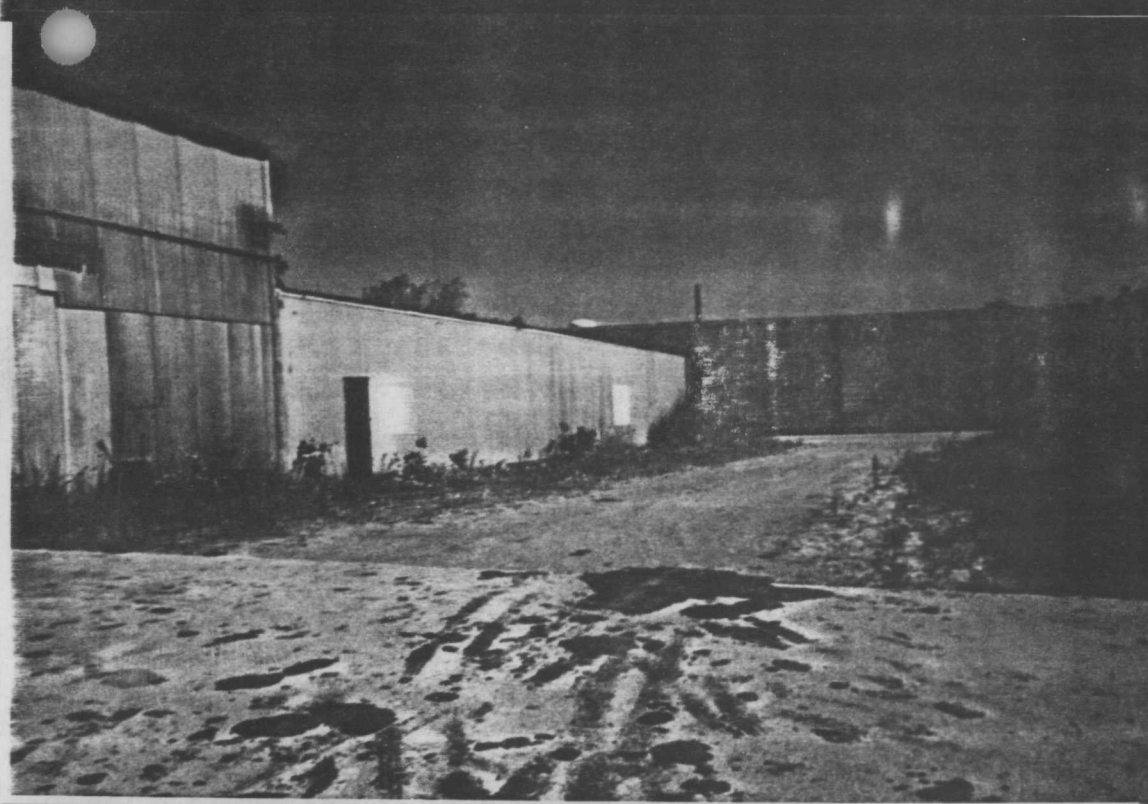
TIME: 1107

LOCATION: Wilmington, IL

DIRECTION: West

PHOTOGRAPHER: Brendan McLennan

SUBJECT: Location of sample D-16.



SITE: Celotex

DATE: August 26, 1997

TIME: 1110

LOCATION: Wilmington, IL

DIRECTION: Northeast

PHOTOGRAPHER: Brendan McLennan

SUBJECT: View of Building 3.



SITE: Celotex

DATE: August 26, 1997

TIME: 1115

LOCATION: Wilmington, IL

DIRECTION: Southwest

PHOTOGRAPHER: Brendan McLennan

SUBJECT: Clarifiers west of Building 1.



SITE: Celotex

DATE: August 26, 1997

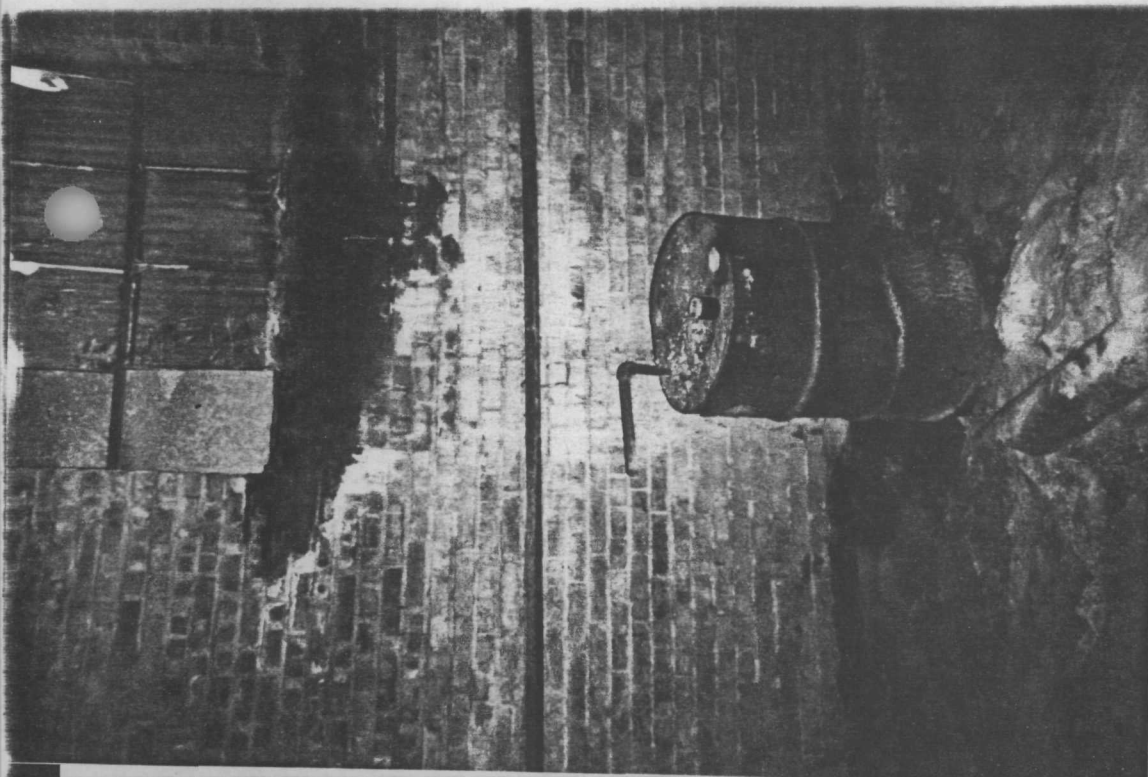
TIME: 1120

LOCATION: Wilmington, IL

DIRECTION: South

PHOTOGRAPHER: Brendan McLennan

SUBJECT: View of Building 1.



SITE: Celotex

DATE: August 26, 1997

TIME: 1130

LOCATION: Wilmington, IL

DIRECTION: South

PHOTOGRAPHER: Brendan McLennan

SUBJECT: Location of sample D-13 with PID reading of 2,000 ppm.



SITE: Celotex

DATE: August 26, 1997

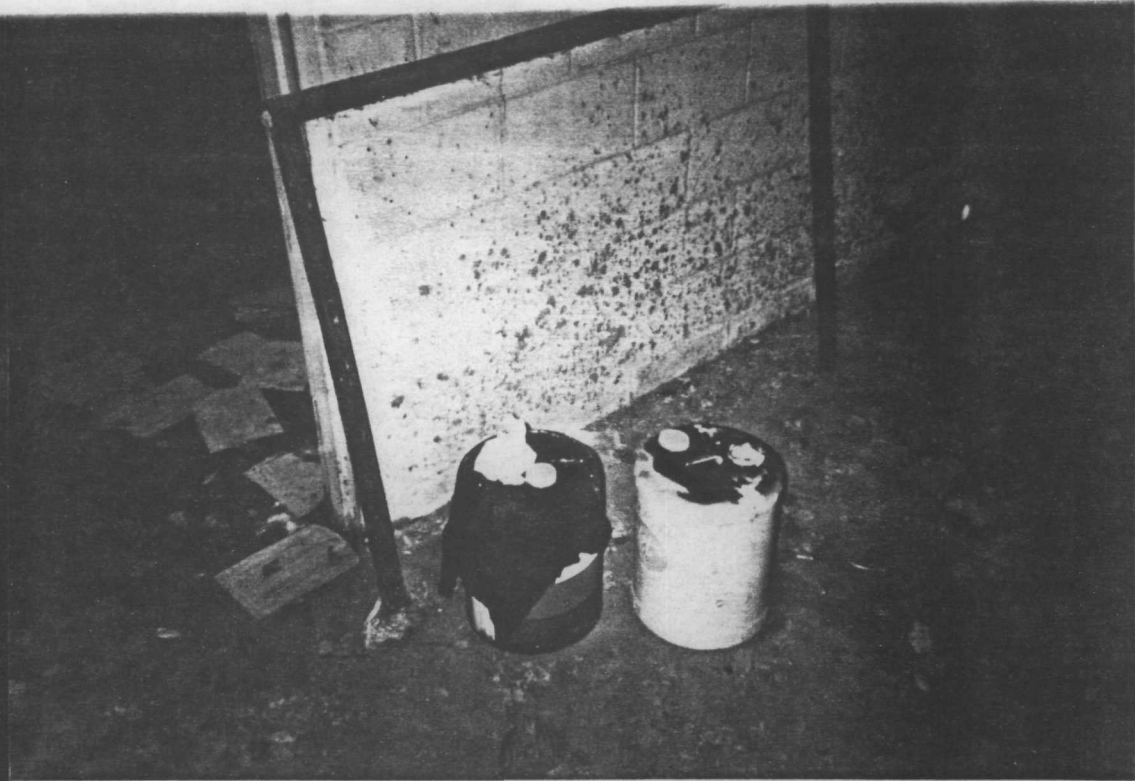
TIME: 1131

LOCATION: Wilmington, IL

DIRECTION: Southwest

PHOTOGRAPHER: Brendan McLennan

SUBJECT: Location of sample D-12.



SITE: Celotex

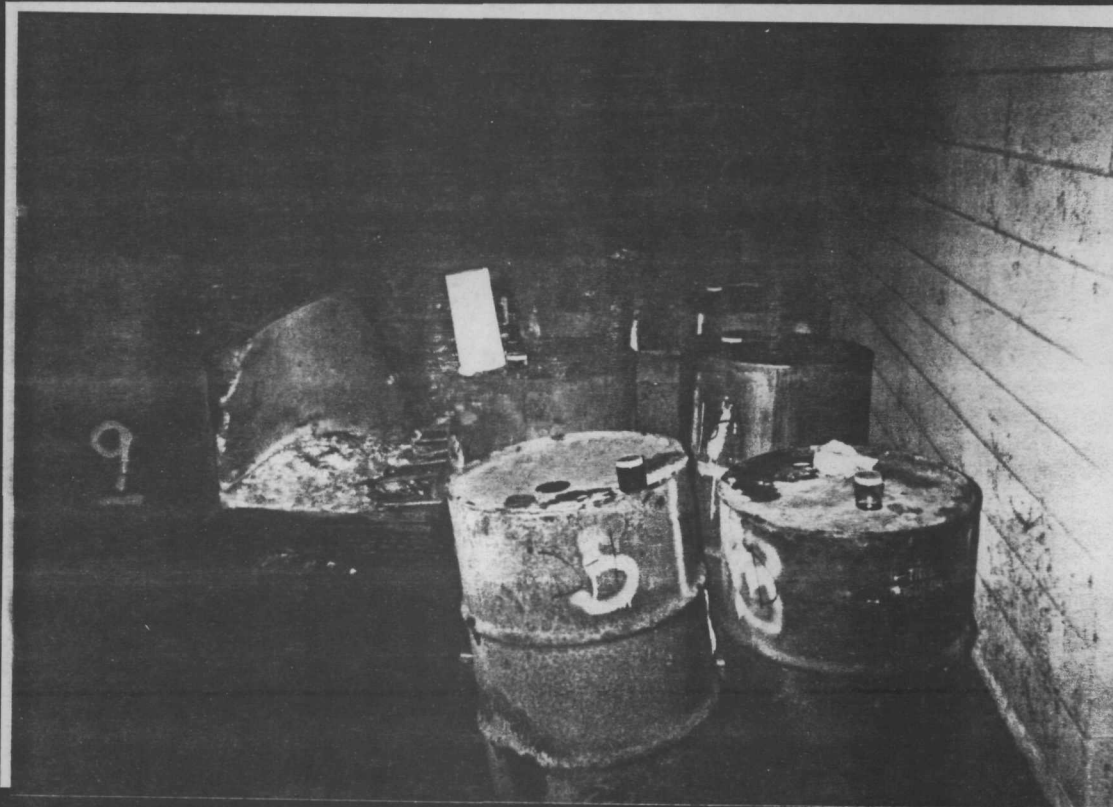
DATE: August 26, 1997

TIME: 1134

LOCATION: Wilmington, IL **DIRECTION:** North

PHOTOGRAPHER: Brendan McLennan

SUBJECT: Location of sample D-9, on the left, and D-10, on the right.



SITE: Celotex

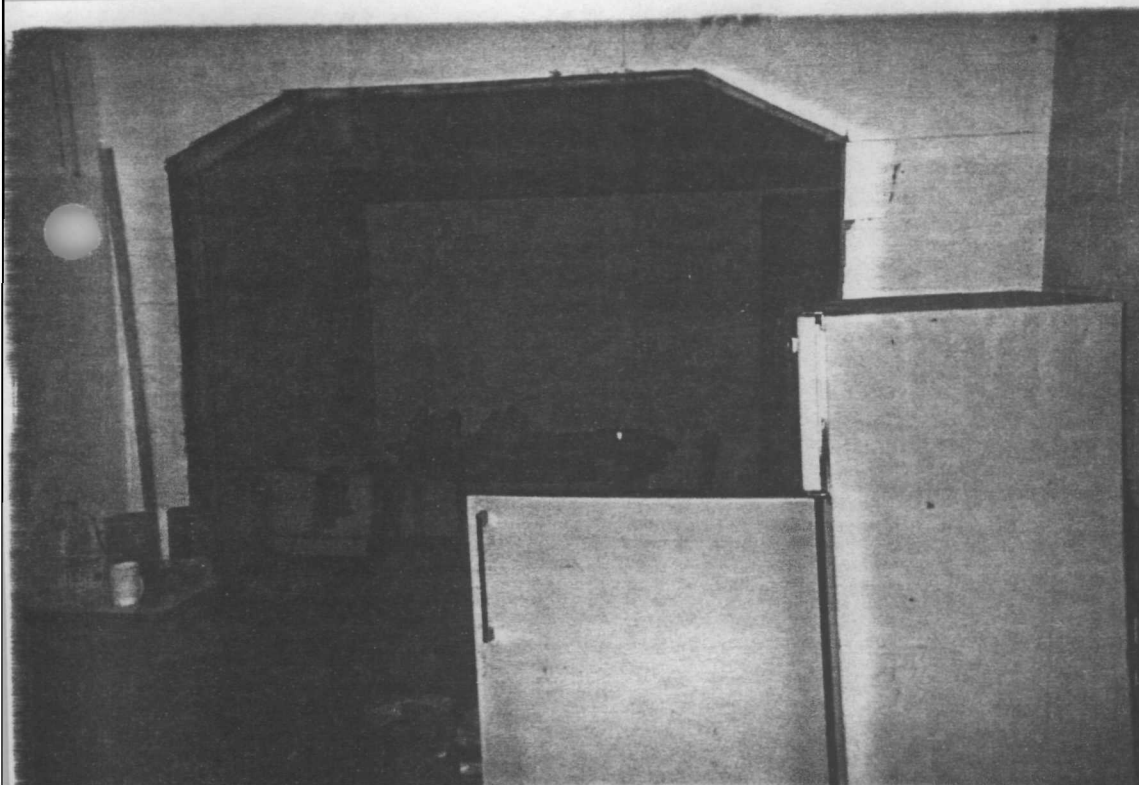
DATE: August 26, 1997

TIME: 1137

LOCATION: Wilmington, IL **DIRECTION:** North

PHOTOGRAPHER: Brendan McLennan

SUBJECT: Location of samples D-1 to D-8.



SITE: Celotex

DATE: August 26, 1997

TIME: 1145

LOCATION: Wilmington, IL **DIRECTION:** North

PHOTOGRAPHER: Brendan McLennan

SUBJECT: View inside Building 3.



SITE: Celotex

DATE: August 26, 1997

TIME: 1147

LOCATION: Wilmington, IL **DIRECTION:** North

PHOTOGRAPHER: Brendan McLennan

SUBJECT: View of artist's workshop in Building 3.



SITE: Celotex

DATE: August 26, 1997

TIME: 1200

LOCATION: Wilmington, IL **DIRECTION:** East

PHOTOGRAPHER: Brendan McLennan

SUBJECT: Tar mass near Forked Creek.



SITE: Celotex

DATE: August 26, 1997

TIME: 1205

LOCATION: Wilmington, IL **DIRECTION:** Down

PHOTOGRAPHER: Brendan McLennan

SUBJECT: Location of sample Tar 1.



SITE: Celotex

DATE: February 17, 1998

TIME: 1200

LOCATION: Wilmington, IL

DIRECTION: West

PHOTOGRAPHER: Brendan McLennan

SUBJECT: Swans feeding along shoreline of Kankakee River.



SITE: Celotex

DATE: February 17, 1998

TIME: 1206

LOCATION: Wilmington, IL

DIRECTION: Down

PHOTOGRAPHER: Brendan McLennan

SUBJECT: Asphalt landfill inundated by water along Kankakee River.



SITE: Celotex
LOCATION: Wilmington, IL
SUBJECT: Asphalt landfill inundated by water along Forked Creek.

DATE: February 17, 1998
DIRECTION: East

TIME: 1210
PHOTOGRAPHER: Brendan McLennan



SITE: Celotex
LOCATION: Wilmington, IL
SUBJECT: Evidence of beaver activity.

DATE: February 17, 1998
DIRECTION: West

TIME: 1215
PHOTOGRAPHER: Brendan McLennan

Appendix B

Analytical Data Package

ecology and environment. inc.

International Specialists in the Environment

33 North Dearborn Street
Chicago, Illinois 60602
Tel: 312-578-9243, Fax: 312-578-9345

M E M O R A N D U M

DATE: October 30, 1997

TO: Brendan McLennan, START Project Manager, E & E,
Chicago, Illinois

FROM: David Hendren, START Analytical Services Manager,
E & E, Chicago, Illinois

THROUGH: Mary Jane Ripp, START Assistant Program Manager,
E & E, Chicago, Illinois

SUBJECT: Organic Data Quality Review for Volatile Organic
Compounds (VOCs), Celotex, Wilmington, Will County,
Illinois

REFERENCE: Project TDD S05-9709-007 Analytical TDD S05-9709-805
Project PAN 7P0701SIXX Analytical PAN 7PAE01TAXX

The data quality assurance (QA) review of one drum sample collected from the Celotex site is complete. The sample was collected on September 26, 1997, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The sample was submitted to American Environmental Network, Schaumburg, Illinois. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste 846 Method 8260.

Sample Identification

START
Identification No.

D-13

Laboratory
Identification No.

L72972331-012

Data Qualifications:

I. Sample Holding Time: Acceptable

The sample was collected on September 26, 1997, and analyzed on October 10, 1997. This is within the 14-day holding time limit.

II. Gas Chromatography/Mass Spectrometry (GC/MS) Tuning:
Acceptable

GC/MS tuning to meet ion abundance criteria using bromofluorobenzene (BFB) were acceptable and the sample was analyzed within 12 hours of BFB tuning.

III. Calibrations:

Initial Calibration: Acceptable

A five-point initial calibration was performed prior to analysis. All average response factors were greater than 0.05. The percent relative standard deviations (%RSDs) between response factors were less than 30% for all detected target compounds.

Continuing Calibration: Not Applicable

The sample was analyzed following the initial calibration; therefore, continuing calibration was not required.

IV. Blank: Acceptable

A method blank was analyzed with the sample. No target compounds or contaminants were detected in the blank.

V. Internal Standards: Acceptable

The areas of the internal standards in the sample were within -50% to +100% of the associated calibration check standard. The retention times of the internal standards were within the 30-second control limit.

VI. Compound Identification: Acceptable

The mass spectra and retention times of the detected compounds matched those of the standards.

VII. Additional QC Checks: Acceptable

The recoveries of the surrogates used in the sample and blank were within laboratory-established guidelines.

elotex
Project TDD S05-9709-007
Analytical TDD S05-9709-805
VOCs
Page 3

VIII. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990), Data Validation Procedures, Section 5.0, VOAs By GC/MS analysis. Based upon the information provided, the data are acceptable for use.

Client : Ecology & Environment
Project ID : S05-9709-007

EPA Target Compound List (TCL) GCMS Volatiles Analysis

Lab Sample Number : L72972331-012
Client ID : D-13

Method: 8260
Matrix : MISC LIQ

<u>Compound</u>	<u>Result</u>	<u>PQL</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>Sample Date</u>	<u>Analysis Date</u>
Chloromethane	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
Vinyl Chloride	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
Bromomethane	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
Chloroethane	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
1,1-Dichloroethene	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
Methylene Chloride	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
trans-1,2-Dichloroethene	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
1,1-Dichloroethane	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
cis-1,2-Dichloroethene	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
Bromoform	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
1,1,1-Trichloroethane	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
Carbon Tetrachloride	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
Benzene	8,300	5,000	ug/Kg	1,000	9/26/97	10/10/97
1,2-Dichloroethane	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
Trichloroethene	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
1,2-Dichloropropane	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
Bromodichloromethane	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
cis-1,3-Dichloropropene	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
Toluene	15,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
trans-1,3-Dichloropropene	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
1,1,2-Trichloroethane	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
Tetrachloroethene	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
Dibromochloromethane	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
Chlorobenzene	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
Ethylbenzene	35,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
Xylenes, Total	170,000	10,000	ug/Kg	1,000	9/26/97	10/10/97
Styrene	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
Bromoform	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
1,1,2,2-Tetrachloroethane	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
Acetone	< 10,000	10,000	ug/Kg	1,000	9/26/97	10/10/97
Carbon Disulfide	< 5,000	5,000	ug/Kg	1,000	9/26/97	10/10/97
2-Butanone	< 10,000	10,000	ug/Kg	1,000	9/26/97	10/10/97
2-Hexanone	< 10,000	10,000	ug/Kg	1,000	9/26/97	10/10/97
2-Methyl-2-Pentanone	< 10,000	10,000	ug/Kg	1,000	9/26/97	10/10/97



ecology and environment. inc.

International Specialists in the Environment

33 North Dearborn Street
Chicago, Illinois 60602
Tel. 312/578-9243, Fax: 312/578-9345

M E M O R A N D U M

DATE: October 30, 1997

TO: Brendan McLennan, START Project Manager, E & E,
Chicago, Illinois

FROM: David Hendren, START Analytical Services Manager,
E & E, Chicago, Illinois

THROUGH: Mary Jane Ripp, START Assistant Program Manager,
E & E, Chicago, Illinois

SUBJECT: Organic Data Quality Review for Semivolatile Organic
Compounds (SVOCs), Celotex, Wilmington, Will County,
Illinois

REFERENCE: Project TDD S05-9709-007 Analytical TDD S05-9709-805
Project PAN 7P0701SIXX Analytical PAN 7PAE01TAXX

The data quality assurance (QA) review of one drum and one tar sample collected from the Celotex site is complete. The samples were collected on September 26, 1997, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to American Environmental Network, Schaumburg, Illinois. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste 846 Method 8270.

Sample Identification

<u>START Identification No.</u>	<u>Laboratory Identification No.</u>
D-13	L72972331-012
Tar 1	L72972331-016

Data Qualifications:

I. Sample Holding Time: Acceptable

The samples were collected on September 26, 1997, extracted on October 12, 1997, and analyzed on October 13, 1997. This is within the 14-day holding time limit, from collection to extraction, and 40-day limit from extraction to analysis.

II. Gas Chromatography/Mass Spectrometry (GC/MS) Tuning:
Acceptable

GC/MS tuning to meet ion abundance criteria using decafluorotriphenylphosphine (DFTPP) were acceptable and samples were analyzed within 12 hours of DFTPP tuning.

III. Calibrations:

• Initial Calibration: Acceptable

A five-point initial calibration was performed prior to analysis. All average response factors were greater than 0.05. The percent relative standard deviations (%RSDs) between response factors were less than 30% for all detected target compounds.

• Continuing Calibration: Acceptable

The percent differences of the response factors were less than 25%, as required for detected target compounds.

IV. Blank: Acceptable

A method blank was analyzed with the samples. No target compounds or contaminants were detected in the blank.

V. Internal Standards: Acceptable

The areas of the internal standards in the samples were within -50% to +100% of the associated calibration check standard. The retention times of the internal standards were within the 30-second control limit.

VI. Compound Identification: Acceptable

The mass spectra and retention times of the detected compounds matched those of the standards.

VII. Additional QC Checks: Acceptable

The recoveries of the surrogates used in the samples were above laboratory-established guidelines in all samples due to matrix interferences. Two target compounds were detected in only one sample, in which the associated internal standard was acceptable; therefore qualification was not required.

Melotex
Project TDD S05-9709-007
Analytical TDD S05-9709-805
SVOCs
Page 3

VIII. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990), Data Validation Procedures, Section 5.0, BNAs By GC/MS analysis. Based upon the information provided, the data are acceptable for use.

Client: Ecology & Environment
AEN Job#: L72972331
Project ID: S05-9709-007
Matrix: Misc Liquid
Method: 8270

EPA Target Compound List (TCL)
Base Neutral Acids
mg/Kg

Analyte	Dilution Factor					PQL
	1.35	1				
	Method Blank	SWD1012	SWD1012			
	Client ID	D-13	METHOD BLANK			
Lab ID	012	SWD1012				
3-Nitroaniline	U	U				50
Acenaphthene	U	U				10
2,4-Dinitrophenol	U	U				50
4-Nitrophenol	U	U				50
Dibenzofuran	U	U				10
2,4-Dinitrotoluene	U	U				10
Diethylphthalate	U	U				10
4-Chlorophenyl phenyl ether	U	U				10
Fluorene	U	U				10
3-Nitroaniline	U	U				50
2,4-Dinitro-2-methylphenol	U	U				50
N-Nitrosodiphenylamine (1)	U	U				10
4-Bromophenyl phenyl ether	U	U				10
Hexachlorobenzene	U	U				10
Pentachlorophenol	U	U				50
Phenanthrene	U	U				10
Anthracene	U	U				10
Di-n-butylphthalate	U	U				10
Fluoranthene	U	U				10
Pyrene	U	U				10
Butyl benzyl phthalate	U	U				10
3,3'-Dichlorobenzidine	U	U				50
Benzo (a) anthracene	U	U				10
Chrysene	U	U				10
bis (2-ethylhexyl) phthalate	U	U				10
Di-n-octylphthalate	U	U				10
Benzo (b) fluoranthene	U	U				10
Benzo (k) fluoranthene	U	U				10
Benzo (a) pyrene	U	U				10
Indeno (1,2,3-cd) pyrene	U	U				10
Dibenz (a,h) anthracene	U	U				10
Benzo (g,h,i) perylene	U	U				10
Date Sampled	9/26/97	---				
Date Extracted	10/12/97	10/12/97				
Date Analyzed	10/13/97	10/13/97				

(1) - Cannot be separated from Diphenylamine

PQL = Practical Quantitation Limit

To obtain sample-specific quantitation limit, multiply the PQL by the Dilution Factor.

Client: Ecology & Environment
AEN Job#: L72972331
Project ID: S05-9709-007
Matrix: Misc Liquid
Method: 8270

EPA Target Compound List (TCL)
Base Neutral Acids
mg/Kg

Analyte	Dilution Factor	1.35	1				PQL
	Method Blank	SWD1012	SWD1012				
	Client ID	D-13	METHOD BLANK				
	Lab ID	012	SWD1012				
Phenol	U	U					10
Bis (2-Chloroethyl) ether	U	U					10
2-Chlorophenol	U	U					10
1,3-Dichlorobenzene	U	U					10
1,4-Dichlorobenzene	U	U					10
Benzyl Alcohol	U	U					10
1,2-Dichlorobenzene	U	U					10
2-Methylphenol	U	U					10
bis (2-Chloroisopropyl) ether	U	U					10
4-Methylphenol	U	U					10
Nitroso-di-n-propylamine	U	U					10
Hexachloroethane	U	U					10
Nitrobenzene	U	U					10
Isophorone	U	U					10
2-Nitrophenol	U	U					10
2,4-Dimethylphenol	U	U					10
Benzoic Acid	U	U					50
bis (2-Chloroethoxy) methane	U	U					10
2,4-Dichlorophenol	U	U					10
1,2,4-Trichlorobenzene	U	U					10
Naphthalene	96	U					10
4-Chloroaniline	U	U					10
Hexachlorobutadiene	U	U					10
4-Chloro-3-methylphenol	U	U					10
2-Methylnaphthalene	27	U					10
Hexachlorocyclopentadiene	U	U					10
2,4,6-Trichlorophenol	U	U					10
2,4,5-Trichlorophenol	U	U					50
2-Chloronaphthalene	U	U					10
2-Nitroaniline	U	U					50
Dimethylphthalate	U	U					10
Acenaphthylene	U	U					10
2,6-Dinitrotoluene	U	U					10

U = Practical Quantitation Limit

To obtain sample-specific quantitation limit, multiply the PQL by the Dilution Factor.

Client: Ecology & Environment
AEN Job#: L72972331
Project ID: S05-9709-007
Matrix: Misc Solid
Method: 8270

EPA Target Compound List (TCL)
Base Neutral Acids
mg/Kg

Analyte	Dilution Factor	5	1				PQL
	Method Blank	SWD1012	SWD1012				
	Client ID	TAR 1	METHOD BLANK				
	Lab ID	016	SWD1012				
Phenol	UD	U					10
Bis (2-Chloroethyl) ether	UD	U					10
2-Chlorophenol	UD	U					10
1,3-Dichlorobenzene	UD	U					10
1,4-Dichlorobenzene	UD	U					10
Benzyl Alcohol	UD	U					10
1,2-Dichlorobenzene	UD	U					10
2-Methylphenol	UD	U					10
bis (2-Chloroisopropyl) ether	UD	U					10
4-Methylphenol	UD	U					10
4-troso-di-n-propylamine	UD	U					10
Hexachloroethane	UD	U					10
Nitrobenzene	UD	U					10
Isophorone	UD	U					10
2-Nitrophenol	UD	U					10
2,4-Dimethylphenol	UD	U					10
Benzoic Acid	UD	U					50
bis (2-Chloroethoxy) methane	UD	U					10
2,4-Dichlorophenol	UD	U					10
1,2,4-Trichlorobenzene	UD	U					10
Naphthalene	UD	U					10
4-Chloroaniline	UD	U					10
Hexachlorobutadiene	UD	U					10
4-Chloro-3-methylphenol	UD	U					10
2-Methylnaphthalene	UD	U					10
Hexachlorocyclopentadiene	UD	U					10
2,4,6-Trichlorophenol	UD	U					10
2,4,5-Trichlorophenol	UD	U					50
2-Chloronaphthalene	UD	U					10
2-Nitroaniline	UD	U					50
Dimethylphthalate	UD	U					10
Acenaphthylene	UD	U					10
2,6-Dinitrotoluene	UD	U					10

PQL = Practical Quantitation Limit

To obtain sample-specific quantitation limit, multiply the PQL by the Dilution Factor.

Client: Ecology & Environment
AEN Job#: L72972331
Project ID: S05-9709-007
Matrix: Misc Solid
Method: 8270

EPA Target Compound List (TCL)
Base Neutral Acids
mg/Kg

Analyte	Dilution Factor	5	1				PQL
	Method Blank	SWD1012	SWD1012				
	Client ID	TAR 1	METHOD BLANK				
	Lab ID	016	SWD1012				
3-Nitroaniline	UD	U					50
Acenaphthene	UD	U					10
2,4-Dinitrophenol	UD	U					50
4-Nitrophenol	UD	U					50
Dibenzofuran	UD	U					10
2,4-Dinitrotoluene	UD	U					10
Diethylphthalate	UD	U					10
4-Chlorophenyl phenyl ether	UD	U					10
Fluorene	UD	U					10
3-Nitroaniline	UD	U					50
2,4-Dinitro-2-methylphenol	UD	U					50
N-Nitrosodiphenylamine (1)	UD	U					10
4-Bromophenyl phenyl ether	UD	U					10
Hexachlorobenzene	UD	U					10
Pentachlorophenol	UD	U					50
Phenanthrene	UD	U					10
Anthracene	UD	U					10
Di-n-butylphthalate	UD	U					10
Fluoranthene	UD	U					10
Pyrene	UD	U					10
Butyl benzyl phthalate	UD	U					10
3,3'-Dichlorobenzidine	UD	U					50
Benzo (a) anthracene	UD	U					10
Chrysene	UD	U					10
bis (2-ethylhexyl) phthalate	UD	U					10
Di-n-octylphthalate	UD	U					10
Benzo (b) fluoranthene	UD	U					10
Benzo (k) fluoranthene	UD	U					10
Benzo (a) pyrene	UD	U					10
Indeno (1,2,3-cd) pyrene	UD	U					10
Dibenz (a,h) anthracene	UD	U					10
Benzo (g,h,i) perylene	UD	U					10
Date Sampled	9/26/97	---					
Date Extracted	10/12/97	10/12/97					
Date Analyzed	10/13/97	10/13/97					

(1) - Cannot be separated from Diphenylamine

PQL = Practical Quantitation Limit

To obtain sample-specific quantitation limit, multiply the PQL by the Dilution Factor.

II. Gas Chromatography/Mass Spectrometry (GC/MS) Tuning:
Acceptable

GC/MS tuning to meet ion abundance criteria using bromofluorobenzene (BFB) or decafluorotriphenylphosphine (DFTPP) were acceptable and the sample was analyzed within 12 hours of BFB or DFTPP tuning.

III. Calibrations:

• Initial Calibration: Qualified

A five-point initial calibration was performed prior to analysis. All average response factors were greater than 0.05 except cyclohexanone; therefore, the nondetect value for this compound has been flagged "R", as required. The percent relative standard deviations (%RSDs) between response factors were less than 30% for all detected target compounds.

• Continuing Calibration: Not Applicable

The sample was analyzed following the initial calibration.

IV. Blank: Acceptable

A method blank was analyzed with the sample. No target compounds or contaminants were detected in the blank.

V. Internal Standards: Acceptable

The areas of the internal standards in the sample were within -50% to +100% of the associated calibration check standard. The retention times of the internal standards were within the 30-second control limit.

VI. Compound Identification: Not Applicable

There were no detected target compounds in the sample.

VII. Additional QC Checks: Acceptable

The recoveries of the surrogates used in the sample and blank were within laboratory-established guidelines.



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33 North Dearborn Street
Chicago, Illinois 60602
Tel. 312/578-9243. Fax 312/578-9345

M E M O R A N D U M

DATE: October 30, 1997

TO: Brendan McLennan, START Project Manager, E & E,
Chicago, Illinois

FROM: David Hendren, START Analytical Services Manager,
E & E, Chicago, Illinois

THROUGH: Mary Jane Ripp, START Assistant Program Manager,
E & E, Chicago, Illinois

SUBJECT: Organic Data Quality Review for F-Listed Solvents,
Celotex, Wilmington, Will County, Illinois

REFERENCE: Project TDD S05-9709-007 Analytical TDD S05-9709-805
Project PAN 7P0701SIXX Analytical PAN 7PAE01TAXX

The data quality assurance (QA) review of one drum sample collected from the Celotex site is complete. The sample was collected on September 26, 1997, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The sample was submitted to American Environmental Network, Schaumburg, Illinois. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste 846 Methods 8260 and 8270.

Sample Identification

START
Identification No.

D-3

Laboratory
Identification No.

L72972331-003

Data Qualifications:

I. Sample Holding Time: Acceptable

The sample was collected on September 26, 1997, and analyzed on October 10, 1997. This is within the 14-day holding time limit from collection to analysis for volatiles and 14-day limit from collection to extraction, and 40-day limit from extraction to analysis, for semivolatiles.

Celotex
Project TDD S05-9709-007
Analytical TDD S05-9709-805
F-Listed Solvents
Page 3

VIII. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990), Data Validation Procedures, Section 4.0, BNAs By GC/MS and 5.0, VOAs By GC/MS analysis. Based upon the information provided, the data are acceptable for use, with the above-stated qualifications.

Data Qualifiers and Definitions:

R - The sample results are rejected (analyte may or may not be present) due to gross deficiencies in quality control criteria. Any reported value is unusable. Resampling and/or reanalysis is necessary for verification.

Client : Ecology & Environment
Project ID : S05-9709-007

FList Solvent Scan
GCMS Volatiles Analysis

Lab Sample Number : L72972331-003
Client ID : D-3

Method: 8260
Matrix : MISC LIQ

<u>Compound</u>	<u>Result</u>	<u>PQL</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>Sample Date</u>	<u>Analysis Date</u>
Trichlorofluoromethane	<5,000	5,000	ug/Kg	500	9/26/97	10/10/97
Methylene Chloride	<2,500	2,500	ug/Kg	500	9/26/97	10/10/97
1,1,1-Trichloroethane	<2,500	2,500	ug/Kg	500	9/26/97	10/10/97
Carbon Tetrachloride	<2,500	2,500	ug/Kg	500	9/26/97	10/10/97
Benzene	<2,500	2,500	ug/Kg	500	9/26/97	10/10/97
Trichloroethene	<2,500	2,500	ug/Kg	500	9/26/97	10/10/97
Toluene	<2,500	2,500	ug/Kg	500	9/26/97	10/10/97
1,1,2-Trichloroethane	<2,500	2,500	ug/Kg	500	9/26/97	10/10/97
Tetrachloroethene	<2,500	2,500	ug/Kg	500	9/26/97	10/10/97
p-Toluenzene	<2,500	2,500	ug/Kg	500	9/26/97	10/10/97
m-Tolylbenzene	<2,500	2,500	ug/Kg	500	9/26/97	10/10/97
Xylenes, Total	<5,000	5,000	ug/Kg	500	9/26/97	10/10/97
o-Dichlorobenzene	<2,500	2,500	ug/Kg	500	9/26/97	10/10/97
Acetone	<5,000	5,000	ug/Kg	500	9/26/97	10/10/97
Carbon Disulfide	<2,500	2,500	ug/Kg	500	9/26/97	10/10/97
Methyl Ethyl Ketone	<5,000	5,000	ug/Kg	500	9/26/97	10/10/97
1,1,2-Trichloro-1,2,2-trifluoroethane	<5,000	5,000	ug/Kg	500	9/26/97	10/10/97
Ethyl Acetate	<25,000	25,000	ug/Kg	500	9/26/97	10/10/97
Methyl Isobutyl Ketone	<5,000	5,000	ug/Kg	500	9/26/97	10/10/97
Isobutanol	<250,000	250,000	ug/Kg	500	9/26/97	10/10/97
Ethyl Ether	<25,000	25,000	ug/Kg	500	9/26/97	10/10/97
n-Butyl Alcohol	<100,000	100,000	ug/Kg	500	9/26/97	10/10/97
2-Nitropropane	<25,000	25,000	ug/Kg	500	9/26/97	10/10/97
Cyclohexanone	<100,000	100,000	ug/Kg	500	9/26/97	10/10/97

AEN - MA Laboratory Results

Client: IEA/American Env. Network(IL)
Project: L72972331
Report Date: 10/17/97

AEN ID: 0072-091
Received: 10/08/97

AEN #	Client ID	Parameter	Results	Units	PQL	Date Analyzed	Analyst	Method
01	D-3	Methanol	BQL	mg/L	10	10/17/97	SM	GCS00400.MA
01	D-3	2- Ethoxyethanol	BQL	mg/L	10	10/17/97	SM	GCS00400.MA
MB		Methanol	BQL	mg/L	1	10/17/97	SM	GCS00400.MA
MB		2- Ethoxyethanol	BQL	mg/L	1	10/17/97	SM	GCS00400.MA
MS		Methanol	96	%	---	10/17/97	SM	GCS00400.MA
MS		2- Ethoxyethanol	106	%	---	10/17/97	SM	GCS00400.MA
MSD		Methanol	89	%	---	10/17/97	SM	GCS00400.MA
MSD		2- Ethoxyethanol	105	%	---	10/17/97	SM	GCS00400.MA

Comments:

PQL = Practical quantitation limit.
BQL = Below quantitation limit.

Client: Ecology & Environment
AEN Job#: L72972331
Project ID: S05-9709-007
Matrix: Misc. Liquid
Method: 8270

F001 - F005 BNA ANALYSIS
mg/Kg

Analyte	Dilution Factor	1	1				Lower Limits of Detection (LLD) with no Dilution*
	Method Blank	SWD1012	SWD1012				
	Client ID	D-3	METHOD BLANK				
	Lab ID	003	SWD1012				
Cresols (Cresylic Acid)		U	U				10
Nitrobenzene		U	U				10
Pyridine		U	U				10
Date Sampled		9/26/97	---				
Date Extracted		10/12/97	10/12/97				
Date Analyzed		10/13/97	10/13/97				

Minimum Detection Limit) = LLD x DF



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33 North Dearborn Street
Chicago, Illinois 60602
Tel. 312/578-9243, Fax: 312/578-9345

M E M O R A N D U M

DATE: October 30, 1997

TO: Brendan McLennan, START Project Manager, E & E,
Chicago, Illinois

FROM: David Hendren, START Analytical Services Manager,
E & E, Chicago, Illinois

THROUGH: Mary Jane Ripp, START Assistant Program Manager,
E & E, Chicago, Illinois

SUBJECT: Data Quality Review for Polychlorinated Biphenyls
(PCBs), Celotex, Wilmington, Will County, Illinois

REFERENCE: Project TDD S05-9709-007 Analytical TDD S05-9709-805
Project PAN 7P0701SIXX Analytical PAN 7PAE01TAXX

The data quality assurance (QA) review of one drum composite and one tar sample collected from the Celotex site is complete. The samples were collected on September 26, 1997, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to American Environmental Network, Schaumburg, Illinois. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste 846 Method 8081.

Sample Identification

<u>START Identification No.</u>	<u>Laboratory Identification No.</u>
D-17	L72972331-015
Tar 1	L72972331-016

Data Qualifications:

I. Sample Holding Time: Acceptable

The samples were collected on September 26, 1997, and extracted and analyzed on October 10, 1997. This is within the 14-day holding time limit, from collection to extraction, and 40-day limit from extraction to analysis.

Client: Ecology & Environmental
 AEN Job#: L72972331
 Project ID: S05-9709-007
 Matrix: Misc Liquid
 Method: 8081

RCRA/TCL
 PCB's
 mg/Kg

Analyte	Dilution Factor	1	1				Lower Limits of Detection (LLD) with no Dilution*
	Method Blank	PWD1008	PWD1008				
	Client ID	D-17	METHOD BLANK				
	Lab ID	015	PWD1008				
Aroclor - 1016		U	U				1.0
Aroclor - 1221		U	U				2.0
Aroclor - 1232		U	U				1.0
Aroclor - 1242		U	U				1.0
Aroclor - 1248		U	U				1.0
Aroclor - 1254		U	U				1.0
Aroclor - 1260		U	U				1.0
Date Collected		9/26/97	---				
Date Extracted		10/8/97	10/8/97				
Date Analyzed		10/8/97	10/8/97				

*MDL (Minimum Detection Limit) = LLD x DF

II. Instrument Performance: Acceptable

The chromatographic resolution was adequate in the standard and sample chromatograms. Surrogate retention times were consistent in the samples and standards.

III. Calibrations:

• Initial Calibration: Acceptable

A five-point initial calibration was performed prior to analysis. The percent relative standard deviations (%RSDs) between response factors were less than 20% for all PCBs.

• Continuing Calibration: Acceptable

The percent differences of the response factors were less than 15%.

IV. Blank: Acceptable

A method blank was analyzed with the sample. No target compounds or contaminants were detected in the blank.

V. Compound Identification: Not Applicable

There were no PCBs detected in the samples.

VI. Additional QC Checks: Acceptable

The recoveries of the surrogates used in the samples were within acceptable laboratory limits, except for the tar sample. Since PCBs were not detected in this sample qualification was not required.

VII. Overall Assessment of Data for Use: Acceptable

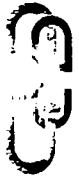
The overall usefulness of the data is based on criteria for QA Level II as outlined in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990), Data Validation Procedures, Section 7.0, PCBs. Based upon the information provided, the data are acceptable for use.

Client: Ecology & Environmental
AEN Job#: L72972331
Project ID: S05-9709-007
Matrix: Misc Solid
Method: 8081

RCRA/TCL
PCB's
mg/Kg

Analyte	Dilution Factor	10	1				Lower Limits of Detection (LLD) with no Dilution*
	Method Blank	PWD1008	PWD1008				
	Client ID	TAR 1	METHOD BLANK				
	Lab ID	016	PWD1008				
Aroclor - 1016		UD	U				1.0
Aroclor - 1221		UD	U				2.0
Aroclor - 1232		UD	U				1.0
Aroclor - 1242		UD	U				1.0
Aroclor - 1248		UD	U				1.0
Aroclor - 1254		UD	U				1.0
Aroclor - 1260		UD	U				1.0
Sampled		9/26/97	---				
Date Extracted		10/8/97	10/8/97				
Date Analyzed		10/8/97	10/8/97				

*MDL (Minimum Detection Limit) = LLD x DF



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International Specialists in the Environment

53 North Dearborn Street
Chicago, Illinois 60602
Tel. 312/578-9243. Fax: 312/578-9345

M E M O R A N D U M

DATE: October 30, 1997

TO: Brendan McLennan, START Project Manager, E & E,
Chicago, Illinois

FROM: David Hendren, START Analytical Services Manager,
E & E, Chicago, Illinois

THROUGH: Mary Jane Ripp, START Assistant Program Manager,
E & E, Chicago, Illinois

SUBJECT: Inorganic Data Quality Review for Resource
Conservation and Recovery Act (RCRA) and Toxicity
Characteristic Leaching Procedure (TCLP) Metals,
Celotex, Wilmington, Will County, Illinois

REFERENCE: Project TDD S05-9709-007 Analytical TDD S05-9709-805
Project PAN 7P0701SIXX Analytical PAN 7PAE01TAXX

The data quality assurance (QA) review of two drum and one tar samples collected from the Celotex site is complete. The samples were collected on September 26, 1997, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to American Environmental Network, Schaumburg, Illinois. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste #16 Methods 1311, 6010, and 7000.

Sample Identification

<u>START</u> <u>Identification No.</u>	<u>Laboratory</u> <u>Identification No.</u>
D-8	L72972331-008
D-16	L72972331-015
Tar 1	L72972331-016

Data Qualifications:

I. Sample Holding Time: Acceptable

The samples were collected on September 26, 1997, and analyzed between October 7, 1997, and October 10, 1997. Analysis for mercury was performed on October 8, 1997. This is within the 6-month (28 days for mercury) holding time limit.

II. Calibration:

- Initial Calibration: Acceptable

Recoveries for the initial calibration verification were within 90 to 110% (80 to 120% for mercury), as required. The correlation coefficient for mercury exceeded 0.995.

- Continuing Calibration: Acceptable

All analytes included in the continuing calibration verification standard were within 90 to 110% (80 to 120% for mercury), as required.

III. Blanks: Acceptable

Calibration and preparation blanks were analyzed with each analytical batch. No target analytes were detected in the blanks.

IV. Overall Assessment of Data For Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990) Data Validation Procedures, Section 3.0, Metallic Inorganic Parameters. Based upon the information provided, the data are acceptable for use.

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE ID

Lab Name. AEN-II, Inc.

TAR 1

Matrix (soil/water): Soil

Lab Sample ID L72972331-016

Level (low/med)

Date Received 9/30/97

% Solids:

Concentration Units: mg/L

[illegible]

24

% Solids 8.3

Date Received: 9/30/97

10

CLIENT SAMPLE ID

D-8

Lab Sample ID L72972331-008

Date Received 9/30/97

Concentration Units: mg/Kg drv weight

FORM I - INORGANIC



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International Specialists in the Environment

33 North Dearborn Street
Chicago, Illinois 60602
Tel. 312/578-9243. Fax: 312/578-9345

M E M O R A N D U M

DATE: October 30, 1997

TO: Brendan McLennan, START Project Manager, E & E,
Chicago, Illinois

FROM: David Hendren, START Analytical Services Manager,
E & E, Chicago, Illinois

THROUGH: Mary Jane Ripp, START Assistant Program Manager,
E & E, Chicago, Illinois

SUBJECT: Data Quality Review for Asbestos, Celotex,
Wilmington, Will County, Illinois

REFERENCE: Project TDD S05-9709-007 Analytical TDD S05-9709-805
Project PAN 7P0701SIXX Analytical PAN 7PAE01TAXX

The data quality assurance (QA) review of one tar and four solid samples collected from the Celotex site is complete. The samples were collected on September 26, 1997, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to American Environmental Network, Schaumburg, Illinois. The laboratory analyses were performed according to polarized light microscopy (PLM) methodology.

Sample Identification

<u>START</u> <u>Identification No.</u>	<u>Laboratory</u> <u>Identification No.</u>
Tar 1	L72972331-016
A-1	L72972331
A-2	L72972331
A-3	L72972331
A-4	L72972331

Celotex
Project TDD S05-9709-007
Analytical TDD S05-9709-805
Asbestos
Page 2

Data Qualifications:

I. Sample Holding Time: Acceptable

The samples were collected on September 26, 1997, and analyzed on October 3, 1997. The Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990) does not specify holding times for this parameter.

II. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in OSWER Data Validation Procedures, Section 9.0, Generic Data Validation Procedures. Based upon the information provided, the data are acceptable for use.



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International Specialists in the Environment

33 North Dearborn Street
Chicago, Illinois 60602
Tel. 312/578-9243. Fax: 312/578-9345

M E M O R A N D U M

DATE: October 30, 1997

TO: Brendan McLennan, START Project Manager, E & E,
Chicago, Illinois

FROM: David Hendren, START Analytical Services Manager,
E & E, Chicago, Illinois

THROUGH: Mary Jane Ripp, START Assistant Program Manager,
E & E, Chicago, Illinois

SUBJECT: Data Quality Review for Flash Point and pH, Celotex,
Wilmington, Will County, Illinois

REFERENCE: Project TDD S05-9709-007 Analytical TDD S05-9709-805
Project PAN 7P0701SIXX Analytical PAN 7PAE01TAXX

The data quality assurance (QA) review of 14 drum waste samples collected from the Celotex site is complete. The samples were collected on September 26, 1997, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to American Environmental Network, Schaumburg, Illinois. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste 846 Methods 1010 and 9045.

Sample Identification

<u>START</u> <u>Identification No.</u>	<u>Laboratory</u> <u>Identification No.</u>
D-1	L72972331-001
D-2	L72972331-002
D-3	L72972331-003
D-4	L72972331-004
D-5	L72972331-005
D-6	L72972331-006
D-7	L72972331-007
D-8	L72972331-008
D-9	L72972331-009
D-10	L72972331-010
D-12	L72972331-011
D-13	L72972331-012
D-14	L72972331-013
D-16	L72972331-014

Celotex

Project TDD S05-9709-007

Analytical TDD S05-9709-805

Flash Point, pH

Page 2

Data Qualifications:

I. Sample Holding Time: Acceptable

The samples were collected on September 26, 1997, and analyzed on September 30, 1997, for pH, and on October 6, 1997, for flash point. The Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990) does not specify holding times for these parameters.

II. Calibrations: Acceptable

The calibrations for flash point and pH were verified before sample analyses. The calibration for flash point was verified using xylene, and the calibration for pH was verified following analyses of three standard solutions.

III. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in OSWER Data Validation Procedures, Section 9.0, Generic Data Validation Procedures. Based upon the information provided, the data are acceptable for use.

Client: Ecology & Environmental
IEA Job#: L72972331
Project ID: S05-9709-007

Wet Chemistry Analytes

Lab Sample ID: 001
Client ID: D-1

Matrix: Misc. Liquid
Sample Date: 9/26/97

Analyte	Method	Result	PQL	Units	Date Analyzed
pH	150.1	14.9	---	pH Units	9/30/97

Lab Sample ID: 002
Client ID: D-2

Matrix: Misc. Liquid
Sample Date: 9/26/97

Analyte	Method	Result	PQL	Units	Date Analyzed
Flashpoint	1010	134	---	°F	10/6/97

Lab Sample ID: 003
Client ID: D-3

Matrix: Misc. Liquid
Sample Date: 9/26/97

Analyte	Method	Result	PQL	Units	Date Analyzed
Flashpoint	1010	>200	---	°F	10/6/97

Lab Sample ID: 004
Client ID: D-4

Matrix: Misc. Liquid
Sample Date: 9/26/97

Analyte	Method	Result	PQL	Units	Date Analyzed
pH	150.1	15.2	---	pH Units	9/30/97

Lab Sample ID: 005
Client ID: D-5

Matrix: Misc. Liquid
Sample Date: 9/26/97

Analyte	Method	Result	PQL	Units	Date Analyzed
pH	150.1	15.5	---	pH Units	9/30/97

Client: Ecology & Environmental
IEA Job#: L72972331
Project ID: S05-9709-007

Wet Chemistry Analytes

Lab Sample ID: 006	Matrix: Misc. Liquid
Client ID: D-6	Sample Date: 9/26/97

Analyte	Method	Result	PQL	Units	Date Analyzed
pH	150.1	13.4	---	pH Units	9/30/97

Lab Sample ID: 007	Matrix: Misc. Liquid
Client ID: D-7	Sample Date: 9/26/97

Analyte	Method	Result	PQL	Units	Date Analyzed
pH	150.1	13.6	---	pH Units	9/30/97

Lab Sample ID: 008	Matrix: Soil
Client ID: D-8	Sample Date: 9/26/97

Analyte	Method	Result	PQL	Units	Date Analyzed
pH	9045	9.54	---	pH Units	9/30/97

Lab Sample ID: 009	Matrix: Misc. Liquid
Client ID: D-9	Sample Date: 9/26/97

Analyte	Method	Result	PQL	Units	Date Analyzed
Flashpoint	1010	>200	---	°F	10/6/97

Lab Sample ID: 010	Matrix: Misc. Liquid
Client ID: D-10	Sample Date: 9/26/97

Analyte	Method	Result	PQL	Units	Date Analyzed
Flashpoint	1010	>200	---	°F	10/6/97

Client: Ecology & Environmental
IEA Job#: L72972331
Project ID: S05-9709-007

Wet Chemistry Analytes

Lab Sample ID: 011
Client ID: D-12

Matrix: Misc. Liquid
Sample Date: 9/26/97

Analyte	Method	Result	PQL	Units	Date Analyzed
Flashpoint	1010	>200	---	°F	10/6/97

Lab Sample ID: 012
Client ID: D-13

Matrix: Misc. Liquid
Sample Date: 9/26/97

Analyte	Method	Result	PQL	Units	Date Analyzed
Flashpoint	1010	81	---	°F	10/6/97

Lab Sample ID: 013
Client ID: D-14

Matrix: Misc. Liquid
Sample Date: 9/26/97

Analyte	Method	Result	PQL	Units	Date Analyzed
Flashpoint	1010	67	---	°F	10/10/97

Lab Sample ID: 014
Client ID: D-16

Matrix: Soil
Sample Date: 9/26/97

Analyte	Method	Result	PQL	Units	Date Analyzed
pH	9045	13.7	---	pH Units	9/30/97

POLARIZED LIGHT MICROSCOPY RESULTS

AEN/IEA

STAT Client: 1270 Date Received: 10/3/97
 STAT Batch: 74196 Date Analyzed: 10/3/97
 Report Date: 10/3/97

Cleint Reference: L72972331

Sample #	% Type of Asbestos	Non-asbestos Components	Comments
Tar 1	---	1-5% Cellulose 90-95% Binder	Quartz 10-5%
-1	35-40% Chrysotile	60-65% Binder	
A-2	---	1-5% Cellulose 90-95% Binder	Perlite 1-5%
A-3	5-10% Chrysotile	80-85% Binder	Glass 5-10%
A-4	15-20% Chrysotile 10-15% Amosite	65-70% Binder	

MMF: Man made Mineral Fibers

--- : Below detection limits by PLM methodology



ecology and environment, inc.

International Specialists in the Environment

33 North Dearborn Street
Chicago, Illinois 60602
Tel. 312/578-9243, Fax: 312/578-9345

M E M O R A N D U M

DATE: January 22, 1998

TO: Brendan McLennan, START Project Manager, E & E,
Chicago, Illinois

FROM: David Hendren, START Analytical Services Manager,
E & E, Chicago, Illinois

THROUGH: Mary Jane Ripp, START Assistant Program Manager,
E & E, Chicago, Illinois

SUBJECT: Inorganic Data Quality Review for Resource
Conservation and Recovery Act (RCRA) Metals, Celotex,
Wilmington, Will County, Illinois

REFERENCE: Project TDD S05-9709-007 Analytical TDD S05-9712-804
Project PAN 7P0701SIXX Analytical PAN 7DAD01TAXX

The data quality assurance (QA) review of two tar samples collected from the Celotex site is complete. The samples were collected on December 11, 1997, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to NET Laboratories, Inc., Bartlett, Illinois. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste 846 Methods 6010 and 7000.

Sample Identification

<u>START</u> <u>Identification No.</u>	<u>Laboratory</u> <u>Identification No.</u>
Tar 2	448777
Tar 3	448778

Data Qualifications:

I. Sample Holding Time: Acceptable

The samples were collected on December 11, 1997, and analyzed between December 17 and December 19, 1997. Analysis for mercury was performed on December 19, 1997. This is within the 6-month (28 days for mercury) holding time limit.

Context

Project TDD S05-9709-007

Analytical TDD S05-9712-804

RCRA Metals

Page 2

II. Calibration:

- Initial Calibration: Acceptable

Recoveries for the initial calibration verification were within 90 to 110% (80 to 120% for mercury), as required. The correlation coefficient for mercury exceeded 0.995.

- Continuing Calibration: Acceptable

All analytes included in the continuing calibration verification standard were within 90 to 110% (80 to 120% for mercury), as required.

III. Blanks: Acceptable

Calibration and preparation blanks were analyzed with each analytical batch. No target analytes were detected in the blanks.

IV. Overall Assessment of Data For Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990) Data Validation Procedures, Section 3.0, Metallic Inorganic Parameters. Based upon the information provided, the data are acceptable for use.



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33 North Dearborn Street
Chicago, Illinois 60602
Tel. 312/578-9243. Fax: 312/578-9345

M E M O R A N D U M

DATE: January 22, 1998

TO: Brendan McLennan, START Project Manager, E & E,
Chicago, Illinois

FROM: David Hendren, START Analytical Services Manager,
E & E, Chicago, Illinois

THROUGH: Mary Jane Ripp, START Assistant Program Manager,
E & E, Chicago, Illinois

SUBJECT: Data Quality Review for Polynuclear Aromatic
Hydrocarbons (PAHs), Celotex, Wilmington, Will
County, Illinois

REFERENCE: Project TDD S05-9709-007 Analytical TDD S05-9712-804
Project PAN 7P0701SIXX Analytical PAN 7DAD01TAXX

The data quality assurance (QA) review of two tar samples collected from the Celotex site is complete. The samples were collected on December 11, 1997, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to NET Laboratories, Inc., Bartlett, Illinois. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste 846 Method 8310.

Sample Identification

<u>START</u> <u>Identification No.</u>	<u>Laboratory</u> <u>Identification No.</u>
Tar 2	448777
Tar 3	448778

Data Qualifications:

I. Sample Holding Time: Acceptable

The samples were collected on December 11, 1997, extracted on December 15, 1997, and analyzed on December 23, 1997. This is within the 14-day holding time limit, from collection to extraction, and 40-day limit from extraction to analysis.



ecology and environment, inc.

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33 North Dearborn Street
Chicago, Illinois 60602
Tel. 312/578-9243. Fax: 312/578-9345

M E M O R A N D U M

DATE: January 22, 1998

TO: Brendan McLennan, START Project Manager, E & E,
Chicago, Illinois

FROM: David Hendren, START Analytical Services Manager,
E & E, Chicago, Illinois

THROUGH: Mary Jane Ripp, START Assistant Program Manager,
E & E, Chicago, Illinois

SUBJECT: Data Quality Review for Polychlorinated Biphenyls
(PCBs), Celotex, Wilmington, Will County, Illinois

REFERENCE: Project TDD S05-9709-007 Analytical TDD S05-9712-804
Project PAN 7P0701SIXX Analytical PAN 7DAD01TAXX

The data quality assurance (QA) review of two tar samples collected from the Celotex site is complete. The samples were collected on December 11, 1997, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to NET Laboratories, Inc., Bartlett, Illinois. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste 846 Method 8082.

Sample Identification

<u>START Identification No.</u>	<u>Laboratory Identification No.</u>
Tar 2	448777
Tar 3	448778

Data Qualifications:

I. Sample Holding Time: Acceptable

The samples were collected on December 11, 1997, extracted on December 11, 1997, and analyzed on December 18, 1997. This is within the 14-day holding time limit, from collection to extraction, and 40-day limit from extraction to analysis.

II. Instrument Performance: Acceptable

The chromatographic resolution was adequate in the standard and sample chromatograms. Surrogate retention times were consistent in the samples and standards.

III. Calibrations:

• Initial Calibration: Acceptable

A five-point initial calibration was performed prior to analysis. The percent relative standard deviations (%RSDs) between response factors were less than 20% for detected PCBs.

• Continuing Calibration: Acceptable

The percent differences of the response factors were less than 15%, for detected PCBs.

IV. Blank: Acceptable

A method blank was analyzed with the sample. No target compounds or contaminants were detected in the blank.

V. Compound Identification: Acceptable

The chromatographic pattern of the PCBs identified in the samples matched those found in the standards.

VI. Additional QC Checks: Acceptable

The recoveries of the surrogates used in the samples were within acceptable laboratory limits.

VII. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990), Data Validation Procedures, Section 7.0, PCBs. Based upon the information provided, the data are acceptable for use.



ecology and environment, inc.

International Specialists in the Environment

33 North Dearborn Street
Chicago, Illinois 60602
Tel. 312/578-9243. Fax: 312/578-9345

M E M O R A N D U M

DATE: January 22, 1998

TO: Brendan McLennan, START Project Manager, E & E,
Chicago, Illinois

FROM: David Hendren, START Analytical Services Manager,
E & E, Chicago, Illinois

THROUGH: Mary Jane Ripp, START Assistant Program Manager,
E & E, Chicago, Illinois

SUBJECT: Data Quality Review for Asbestos, Celotex,
Wilmington, Will County, Illinois

REFERENCE: Project TDD S05-9709-007 Analytical TDD S05-9712-804
Project PAN 7P0701SIXX Analytical PAN 7DAD01TAXX

The data quality assurance (QA) review of two solid samples collected from the Celotex site is complete. The samples were collected on December 11, 1997, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to NET, Bartlett, Illinois. The laboratory analyses were performed according to polarized light microscopy (PLM) methodology, in accordance with EPA 40 CFR Part 763 Appendix A to Subpart F.

Sample Identification

<u>START Identification No.</u>	<u>Laboratory Identification No.</u>
A5	448779
A6	448780

Data Qualifications:

I. Sample Holding Time: Acceptable

The samples were collected on December 11, 1997, and analyzed on December 23, 1997. The Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990) does not specify holding times for this parameter.

Celotex
Project TDD S05-9709-007
Analytical TDD S05-9709-805
Asbestos
Page 2

II. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in OSWER Data Validation Procedures, Section 9.0, Generic Data Validation Procedures. Based upon the information provided, the data are acceptable for use.



**NATIONAL
ENVIRONMENTAL
TESTING, INC.**

Bartlett Division
850 West Bartlett Rd.
Bartlett, IL 60103
Tel: (630) 289-3100
Fax: (630) 289-5445

Rockford Division
3548 35th Street
Rockford, IL 61109
Tel: (815) 874-2171
Fax: (815) 874-5622
(800) 807-2877

ANALYTICAL REPORT

Mr. Dave Hendren
ECOLOGY & ENVIRONMENT, INC
33 N. Dearborn
Suite 900
Chicago, IL 60602

12/29/1997

Sample No. : 448777

NET Job No.: 97.15143

Sample Description: Building 1 Basement - Tar 2
Cetotex 505-9709-007

Date Taken: 12/11/1997
Time Taken: 10:25
IEPA Cert. No. 100221

Date Received: 12/12/1997
Time Received: 13:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Solids, Total	95.3	%	12/15/1997	0.1	ttl	2031	2540 (4)
Arsenic, GFAA	3.0 M+	mg/kg	12/17/1997	0.50	mhp	80 437	7060 (1)
Barium, ICP	32	mg/kg	12/18/1997	1.0	kdw	906 1633	6010B(9)
Cadmium, ICP	2.0	mg/kg	12/18/1997	0.50	kdw	906 1618	6010B(9)
Chromium, ICP	50	mg/kg	12/18/1997	2.0	kdw	906 1604	6010B(9)
Lead, ICP	100	mg/kg	12/18/1997	4.0	kdw	906 1826	6010B(9)
Mercury, CVAA	<0.042	mg/kg	12/18/1997	0.040	jtt	562 672	7471A (9)
Selenium, GFAA	<0.26 M+	mg/kg	12/17/1997	0.25	mhp	80 367	7740 (1)
Silver, AA	<2.1	mg/kg	12/17/1997	2.0	jtt	379 481	7760 (1)
Prep, 8310 PNAs NON-AQUEOUS PNA CMPDS - 8310 NONAQUEOUS	extracted		12/15/1997		bt1	621	3540 (1)
Acenaphthene	<16	mg/Kg	12/23/1997	0.660	keh	621 1494	8310 (1)
Acenaphthylene	<16	mg/Kg	12/23/1997	0.660	keh	621 1494	8310 (1)
Anthracene	<16	mg/Kg	12/23/1997	0.660	keh	621 1494	8310 (1)
Benzo(a)anthracene	<16	mg/Kg	12/23/1997	0.0026	keh	621 1494	8310 (1)
Benzo(b)fluoranthene	<16	mg/Kg	12/23/1997	0.0036	keh	621 1494	8310 (1)
Benzo(k)fluoranthene	<16	mg/Kg	12/23/1997	0.0034	keh	621 1494	8310 (1)
Benzo(a)pyrene	<16	mg/Kg	12/23/1997	0.0046	keh	621 1494	8310 (1)
Benzo(ghi)perylene	<16	mg/Kg	12/23/1997	0.051	keh	621 1494	8310 (1)
Chrysene	<16	mg/Kg	12/23/1997	0.03	keh	621 1494	8310 (1)
Dibenzo(a,h)anthracene	<16	mg/Kg	12/23/1997	0.006	keh	621 1494	8310 (1)
Fluoranthene	<16	mg/Kg	12/23/1997	0.660	keh	621 1494	8310 (1)
Fluorene	<16	mg/Kg	12/23/1997	0.14	keh	621 1494	8310 (1)
Indeno(1,2,3-cd)pyrene	<16	mg/Kg	12/23/1997	0.0086	keh	621 1494	8310 (1)
Naphthalene	<16	mg/Kg	12/23/1997	0.025	keh	621 1494	8310 (1)
Phenanthrene	<16	mg/Kg	12/23/1997	0.660	keh	621 1494	8310 (1)

M+ : Analyte quantified by MSA due to low spike recovery.

Reported PNA reporting limits due to sample matrix.



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TESTING, INC.

Bartlett Division
850 West Bartlett Rd.
Bartlett, IL 60103
Tel: (630) 289-3100
Fax: (630) 289-5445

Rockford Division
3548 35th Street
Rockford, IL 61109
Tel: (815) 874-2171
Fax: (815) 874-5622
(800) 807-2877

ANALYTICAL REPORT

Mr. Dave Hendren
ECOLOGY & ENVIRONMENT, INC
33 N. Dearborn
Suite 900
Chicago, IL 60602

12/29/1997

Sample No. : 448777

NET Job No.: 97.15143

Sample Description: Building 1 Basement - Tar 2
Cetotex 505-9709-007

Date Taken: 12/11/1997
Time Taken: 10:25
IEPA Cert. No. 100221

Date Received: 12/12/1997
Time Received: 13:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Pyrene	<16	mg/Kg	12/23/1997	0.18	keh	621 1494	8310 (1)
Surr: p-Terphenyl	Diluted out	%	12/23/1997	43-125	keh	621 1494	8310 (1)
B'S NON-AQUEOUS - 8082							
PCB-1016	<5,000	ug/kg	12/18/1997	40	lac	215 595	8082 (1)
PCB-1221	<5,000	ug/kg	12/18/1997	40	lac	215 595	8082 (1)
PCB-1232	<5,000	ug/kg	12/18/1997	40	lac	215 595	8082 (1)
PCB-1242	10,100	ug/kg	12/18/1997	40	lac	215 595	8082 (1)
PCB-1248	<5,000	ug/kg	12/18/1997	40	lac	215 595	8082 (1)
PCB-1254	<5,000	ug/kg	12/18/1997	40	lac	215 595	8082 (1)
PCB-1260	<5,000	ug/kg	12/18/1997	40	lac	215 595	8082 (1)
Decachlorobiphenyl (Surr)	92.0	%	12/18/1997	NA	lac	215 595	8082 (1)
2,4,5,6-TCMX (Surr)	35.0	%	12/18/1997	NA	lac	215 595	8082 (1)

PCB analysis performed at a 125x dilution due to sample matrix.



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Bartlett Division
850 West Bartlett Rd.
Bartlett, IL 60103
Tel: (630) 289-3100
Fax: (630) 289-5445

Rockford Division
3548 35th Street
Rockford, IL 61109
Tel: (815) 874-2171
Fax: (815) 874-5622
(800) 807-2877

ANALYTICAL REPORT

Mr. Dave Hendren
ECOLOGY & ENVIRONMENT, INC
33 N. Dearborn
Suite 900
Chicago, IL 60602

12/29/1997

Sample No. : 448778

NET Job No.: 97.15143

Sample Description: Building 1 Basement - Tar 3
Cetotex 505-9709-007

Date Taken: 12/11/1997
Time Taken: 10:35
IEPA Cert. No. 100221

Date Received: 12/12/1997
Time Received: 13:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Solids, Total	84.1	%	12/15/1997	0.1	tcl	2031	2540 (4)
Arsenic, GFAA	2.8	mg/kg	12/17/1997	0.50	mhp	30 437	7060 (1)
Barium, ICP	24	mg/kg	12/18/1997	1.0	kdw	906 1633	6010B(9)
Cadmium, ICP	0.78	mg/kg	12/18/1997	0.50	kdw	906 1618	6010B(9)
Chromium, ICP	20	mg/kg	12/18/1997	2.0	kdw	906 1604	6010B(9)
Lead, ICP	23	mg/kg	12/19/1997	4.0	kdw	906 1926	6010B(9)
Mercury, CVAA	<0.048	mg/kg	12/18/1997	0.040	jtt	562 672	7471A (9)
Selenium, GFAA	<0.30	mg/kg	12/17/1997	0.25	mhp	80 367	7740 (1)
Silver, AA	<2.4	mg/kg	12/17/1997	2.0	jtt	379 431	7760 (1)
Prep, 8310 PNAs NON-AQUEOUS PNA COMPS - 8310 NONAQUEOUS	extracted		12/15/1997		btl	621	3540 (1)
Acenaphthene	<24	mg/Kg	12/23/1997	0.660	keh	621 1494	8310 (1)
Acenaphthylene	<24	mg/Kg	12/23/1997	0.660	keh	621 1494	8310 (1)
Anthracene	<24	mg/Kg	12/23/1997	0.660	keh	621 1494	8310 (1)
Benzo(a)anthracene	<24	mg/Kg	12/23/1997	0.0026	keh	621 1494	8310 (1)
Benzo(b)fluoranthene	<24	mg/Kg	12/23/1997	0.0036	keh	621 1494	8310 (1)
Benzo(k)fluoranthene	<24	mg/Kg	12/23/1997	0.0034	keh	621 1494	8310 (1)
Benzo(a)pyrene	<24	mg/Kg	12/23/1997	0.0046	keh	621 1494	8310 (1)
Benzo(ghi)perylene	<24	mg/Kg	12/23/1997	0.051	keh	621 1494	8310 (1)
Chrysene	<24	mg/Kg	12/23/1997	0.03	keh	621 1494	8310 (1)
Dibenz(a,h)anthracene	<24	mg/Kg	12/23/1997	0.006	keh	621 1494	8310 (1)
Fluoranthene	<24	mg/Kg	12/23/1997	0.660	keh	621 1494	8310 (1)
Fluorene	<24	mg/Kg	12/23/1997	0.14	keh	621 1494	8310 (1)
Indeno(1,2,3-cd)pyrene	<24	mg/Kg	12/23/1997	0.0086	keh	621 1494	8310 (1)
Naphthalene	<24	mg/Kg	12/23/1997	0.025	keh	621 1494	8310 (1)
Phenanthrene	<24	mg/Kg	12/23/1997	0.660	keh	621 1494	8310 (1)

ated PNA reporting limits due to sample matrix.



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TESTING, INC.

Bartlett Division
850 West Bartlett Rd.
Bartlett, IL 60103
Tel: (630) 289-3100
Fax: (630) 289-5445

Rockford Division
3548 35th Street
Rockford, IL 61109
Tel: (815) 874-2171
Fax: (815) 874-5622
(800) 807-2877

ANALYTICAL REPORT

Mr. Dave Hendren
ECOLOGY & ENVIRONMENT, INC
33 N. Dearborn
Suite 900
Chicago, IL 60602

12/29/1997

Sample No. : 448778

NET Job No.: 97.15143

Sample Description: Building 1 Basement - Tar 3
Cetotex 505-9709-007

Date Taken: 12/11/1997
Time Taken: 10:35
IEPA Cert. No. 100221

Date Received: 12/12/1997
Time Received: 13:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Pyrene	<24	mg/Kg	12/23/1997	0.18	keh	621 1494	8310 (1)
Surr: p-Terphenyl	Diluted out	%	12/23/1997	43-125	keh	621 1494	8310 (1)
S NON-AQUEOUS - 8082							
PCB-1016	<20,000	ug/kg	12/18/1997	40	lac	215 595	8082 (1)
PCB-1221	<20,000	ug/kg	12/18/1997	40	lac	215 595	8082 (1)
PCB-1232	<20,000	ug/kg	12/18/1997	40	lac	215 595	8082 (1)
PCB-1242	<20,000	ug/kg	12/18/1997	40	lac	215 595	8082 (1)
PCB-1248	<20,000	ug/kg	12/18/1997	40	lac	215 595	8082 (1)
PCB-1254	<20,000	ug/kg	12/18/1997	40	lac	215 595	8082 (1)
PCB-1250	<20,000	ug/kg	12/18/1997	40	lac	215 595	8082 (1)
Decachlorobiphenyl (Surr)	84.0	%	12/18/1997	NA	lac	215 595	8082 (1)
2,4,5,6-TCMX (Surr)	76.0	%	12/18/1997	NA	lac	215 595	8082 (1)

Reported PCB reporting limits due to sample matrix.



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Bartlett Division
850 West Bartlett Rd.
Bartlett, IL 60103
Tel: (630) 289-3100
Fax: (630) 289-5445

Rockford Division
3548 35th Street
Rockford, IL 61109
Tel: (815) 874-2171
Fax: (815) 874-5622
(800) 807-2877

ANALYTICAL REPORT

Mr. Dave Hendren
ECCOLOGY & ENVIRONMENT, INC
33 N. Dearborn
Suite 900
Chicago, IL 60602

12/29/1997

Sample No. : 448779

NET Job No.: 97.15143

Sample Description: Building 1 Basement - A5
Cetotex 505-9709-007

Date Taken: 12/11/1997
Time Taken: 10:40
IEPA Cert. No. 100221

Date Received: 12/12/1997
Time Received: 13:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst Batch No. Prep/Run	Analytical Method
Asbestos/Bulk	See Attached Analytical Report from NET Chicago Division					



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ENVIRONMENTAL
TESTING, INC.

Bartlett Division
850 West Bartlett Rd.
Bartlett, IL 60103
Tel: (630) 289-3100
Fax: (630) 289-5445

Rockford Division
3548 35th Street
Rockford, IL 61109
Tel: (815) 874-2171
Fax: (815) 874-5622
(800) 807-2877

ANALYTICAL REPORT

Mr. Dave Hendren
ECOLOGY & ENVIRONMENT, INC
33 N. Dearborn
Suite 900
Chicago, IL 60602

12/29/1997

Sample No. : 448780

NET Job No.: 97.15143

Sample Description: Building 1 Basement - A6
Cetotex 505-9709-007

Date Taken: 12/11/1997
Time Taken: 10:45
IEPA Cert. No. 100221

Date Received: 12/12/1997
Time Received: 13:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Asbestos/Bulk	See Attached Analytical Report from NET Chicago Division						

Parameter analysis was sub-contracted to another NET location.



NATIONAL
ENVIRONMENTAL
TESTING, INC.

Chicago Division
222 South Morgan
Chicago, IL 60607
Tel: (312) 666-4469
Fax: (312) 666-4355

F.D.A. EST. REG. NO. 14-16923

ANALYTICAL REPORT

NET MIDWEST - BARTLETT
850 W. Bartlett Road
Bartlett, IL 60103

DATE: 12/23/1997

Attn: Mr. Brian Warner

Sample Description: #448779

Job Number: 97.04843
Sample Number: 217017
Date Received: 12/16/1997
Page 1

ASBESTOS		
Sample Color	TAN	
FIBROUS ASBESTIFORMS	.	
Actinolite/Tremolite	ND	
Amosite	ND	
Anthophyllite	ND	
Chrysotile	ND	
Crocidolite	ND	
Total Fibrous Asbestiforms	ND	
OTHER FIBROUS COMPONENTS	.	
Cellulose	ND	
Fibrous Glass	3	%
Synthetics	10	%
Other	ND	
NONFIBROUS COMPONENTS	87	%

All analyses are performed in accordance with EPA 40 CFR, Part 763 Appendix A to Subpart F. ND means less than 1%, and % refers to percent by volume.

Theresa Bednar 12/23/97
Theresa Bednar Date of Analysis
Analyst

Jaime Maceda
Jaime Maceda, Manager
NET Midwest Inc.
Chicago Division

00750



NATIONAL
ENVIRONMENTAL
TESTING, INC.

Chicago Division
222 South Morgan
Chicago, IL 60607
Tel: (312) 666-4469
Fax: (312) 666-4355

F.D.A. EST. REG. NO. 14-16923

ANALYTICAL REPORT

NET MIDWEST - BARTLETT
850 W. Bartlett Road
Bartlett, IL 60103

DATE: 12/23/1997

Attn: Mr. Brian Warner

Sample Description: #448780

Job Number: 97.04843
Sample Number: 217018
Date Received: 12/16/1997
Page 2

ASBESTOS		
Sample Color	OW	
FIBROUS ASBESTIFORMS	.	
Actinolite/Tremolite	ND	
Amosite	25	%
Anthophyllite	ND	
Chrysotile	ND	
Crocidolite	20	%
Total Fibrous Asbestiforms	45	%
OTHER FIBROUS COMPONENTS	.	
Cellulose	ND	
Fibrous Glass	ND	
Synthetics	ND	
Other	ND	
NONFIBROUS COMPONENTS	55	%

All analyses are performed in accordance with EPA 40 CFR, Part 763 Appendix A to Subpart F. ND means less than 1%, and % refers to percent by volume.

Theresa Bednar 12/23/97
Theresa Bednar Date of Analysis
Analyst

Jaime Maceda
Jaime Maceda, Manager
NET Midwest Inc.
Chicago Division

00001



ecology and environment, inc.

International Specialists in the Environment

33 North Dearborn Street
Chicago, Illinois 60602
Tel. 312/578-9243, Fax: 312/578-9345

M E M O R A N D U M

DATE: May 4, 1998

TO: Brendan McLennan, START Project Manager, E & E,
Chicago, Illinois

FROM: Nabil Fayoumi, START Chemist, E & E, Chicago, *NF*
Illinois

THROUGH: David Hendren, START Analytical Services Manager,
E & E, Chicago, Illinois

SUBJECT: Bulk Asbestos Data Quality Review, Celotex,
Wilmington, Will County, Illinois

REFERENCE: Project TDD S05-9802-002 Analytical TDD S05-9802-807
Project PAN 8F0201SIXX Analytical PAN 8FAG01TAXX

The data quality assurance (QA) review of two tar samples collected from the Celotex is complete. The samples were collected on February 17, 1998, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The samples were analyzed by American Environmental Network, Schaumburg, Illinois. The laboratory analysis were performed using polarized light microscopy (PLM).

Sample Identification

START Identification No.	Laboratory Identification No.
Tar 4	L72980430-003
Tar 5	L72880430-006

The samples were visually examined by polarized light microscopy (PLM). In this method, the asbestos minerals are identified by their form and characteristic indices of refraction (I.R.). The two tar samples contained no asbestos mineral.

OSWER Directive 9360.4-01 does not pertain to asbestos mineral identification. Based upon reviewer judgement, the data are acceptable for use.

I. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in OSWER Data Validation Procedures, Section 9.0, Generic Data Validation Procedures. Based upon the information provided, the data are acceptable for use.



ecology and environment, inc.

International Specialists in the Environment

33 North Dearborn Street
Chicago, Illinois 60602
Tel. 312/578-9243. Fax: 312/578-9345

M E M O R A N D U M

DATE: May 4, 1998

TO: Brendan McLennan, START Project Manager, E & E,
Chicago, Illinois

FROM: Nabil Fayoumi, START Chemist, E & E, Chicago, *NF*
Illinois

THROUGH: David Hendren, START Analytical Services Manager,
E & E, Chicago, Illinois

SUBJECT: Generic Data Quality Review for Total Petroleum
Hydrocarbons (TPH), Celotex, Wilmington, Will County,
Illinois

REFERENCE: Project TDD S05-9802-002 Analytical TDD S05-9802-807
Project PAN 8F0201SIXX Analytical PAN 8FAG01TAXX

The data quality assurance (QA) review of six sediment samples and two tar samples collected from the Celotex is complete. The samples were collected on February 17, 1998, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to American Environmental Network, Schaumburg, Illinois, for analyses. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Method 418.1.

Sample Identification

<u>START</u> <u>Identification No.</u>	<u>Laboratory</u> <u>Identification No.</u>
Sediment 1	L72980430-001
Sediment 2	L72980430-002
Tar 4	L72980430-003
Sediment 3	L72980430-004
Sediment 4	L72980430-005
Tar 5	L72980430-006
Sediment 5	L72980430-007
Sediment 6	L72980430-008

Celotex
Project TDD S05-9802-002
Analytical TDD S05-9802-807
TPH
Page 2

Data Qualifications:

I. Sample Holding Time: Acceptable

The samples were collected on February 17, 1998, and analyzed on March 5, 1998. The OSWER Directive 9360.4-01 does not include criteria regarding holding time for this method.

II. Calibrations: Acceptable

The calibration for total petroleum hydrocarbons was verified before sample analysis.

III. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in OSWER Data Validation Procedures, Section 9.0, Generic Data Validation Procedures. Based upon the information provided, the data are acceptable for use.



ecology and environment, inc.

International Specialists in the Environment

33 North Dearborn Street
Chicago, Illinois 60602
Tel. 312/578-9243, Fax: 312/578-9345

M E M O R A N D U M

DATE: May 4, 1998

TO: Brendan McLennan, START Project Manager, E & E,
Chicago, Illinois

FROM: Nabil Fayoumi, START Chemist, E & E, Chicago, **NF**
Illinois

THROUGH: David Hendren, START Analytical Services Manager,
E & E, Chicago, Illinois

SUBJECT: Organic Data Quality Review for Semivolatile Organic
Compounds (SVOCs), Celotex, Wilmington, Will County,
Illinois

REFERENCE: Project TDD S05-9802-002 Analytical TDD S05-9802-807
Project PAN 8F0201SIXX Analytical PAN 8FAG01TAXX

The data quality assurance (QA) review of six sediment samples and two tar samples collected from Celotex is complete. The samples were collected on February 17, 1998, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The samples were analyzed by American Environmental Network, Schaumburg, Illinois. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste 846 Method 8270.

Sample Identification

<u>START</u> <u>Identification No.</u>	<u>Laboratory</u> <u>Identification No.</u>
Sediment 1	L72980430-001
Sediment 2	L72980430-002
Tar 4	L72980430-003
Sediment 3	L72980430-004
Sediment 4	L72980430-005
Tar 5	L72880430-006
Sediment 5	L72880430-007
Sediment 6	L72880430-008

Data Qualifications:

I. Sample Holding Time: Acceptable

The samples were collected on February 17, 1998, extracted on February 23, 1998, and analyzed between February 24 and

February 26, 1998. This is within the 14-day holding time limit, from collection to extraction, and 40-day limit from extraction to analysis.

II. Gas Chromatography/Mass Spectrometry (GC/MS) Tuning:
Acceptable

GC/MS tuning to meet ion abundance criteria using decafluorotriphenylphosphine (DFTPP) were acceptable.

III. Calibrations:

• Initial Calibration: Acceptable

A five-point initial calibration was performed prior to analysis. All average response factors were greater than 0.05. The percent relative standard deviations (%RSDs) between response factors were less than 30% for all target compounds.

• Continuing Calibration: Acceptable

The percent differences of the response factors were less than 25%, as required for target compounds.

IV. Blanks: Acceptable

A method blank was analyzed with the samples. No target compounds were detected above reportable limits.

V. Internal Standards: Qualified

The areas of the internal standards in samples Sediment 1, Sediment 2, Sediment 3, Tar 4, and Tar 5 were below the 50% to +100% limits of the associated calibration check standard; therefore nondetected compounds in the associated samples were flagged J as estimated. The retention times of the internal standards were within the 30-second control limit.

VI. Compound Identification: Acceptable

No target compounds were detected above reportable limits.

VII. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in the Office of Solid Waste and

Celotex
Project TDD S05-9802-002
Analytical TDD S05-9802-807
SVOCs
Page 3

Emergency Response (OSWER) Directive 9360.4-01 (April 1990), Data Validation Procedures, Section 4.0, SVOCs By GC/MS analysis. Based upon the information provided, the data are acceptable for use, with the above-stated qualifications.

Data Qualifiers and Definitions:

J - The associated numerical value is an estimated quantity because the reported concentrations were less than required detection limits or quality control criteria were not met.

Client: Ecology & Environment
AEN Job#: L72980430
Project ID: S05-9802-002
Matrix: Soil
Method: 8270

EPA Target Compound List (TCL)
Base Neutral Acids
ug/Kg-Dry Weight

Analyte	Percent Solids	73%	73%	74%	74%	90%	PQL
	Dilution Factor	1	1	2	1	50	
	Method Blank	SS0223	SS0223	SS0223	SS0223	SS0223	
	Client ID	Sediment	Sediment	Sediment	Sediment	Tar	
	Lab ID	1	1	2	2	4	
		001	001R	002D	002	003D	
Phenol		U	U	UD	U	UD	330
Bis (2-Chloroethyl) ether		U	U	UD	U	UD	330
2-Chlorophenol		U	U	UD	U	UD	330
1,3-Dichlorobenzene		U	U	UD	U	UD	330
1,4-Dichlorobenzene		U	U	UD	U	UD	330
Benzyl Alcohol		U	U	UD	U	UD	330
1,2-Dichlorobenzene		U	U	UD	U	UD	330
2-Methylphenol		U	U	UD	U	UD	330
bis (2-Chloroisopropyl) ether		U	U	UD	U	UD	330
4-Methylphenol		U	U	UD	U	UD	330
N-Nitroso-di-n-propylamine		U	U	UD	U	UD	330
Hexachloroethane		U	U	UD	U	UD	330
Nitrobenzene		U	U	UD	U	UD	330
Isophorone		U	U	UD	U	UD	330
2-Nitrophenol		U	U	UD	U	UD	330
2,4-Dimethylphenol		U	U	UD	U	UD	330
Benzoic Acid		U	U	UD	U	UD	1600
bis (2-Chloroethoxy) methane		U	U	UD	U	UD	330
2,4-Dichlorophenol		U	U	UD	U	UD	330
1,2,4-Trichlorobenzene		U	U	UD	U	UD	330
Naphthalene		U	U	UD	U	UD	330
4-Chloroaniline		U	U	UD	U	UD	330
Hexachlorobutadiene		U	U	UD	U	UD	330
4-Chloro-3-methylphenol		U	U	UD	U	UD	660
2-Methylnaphthalene		U	U	UD	U	UD	330
Hexachlorocyclopentadiene		U	U	UD	U	UD	330
2,4,6-Trichlorophenol		U	U	UD	U	UD	330
2,4,5-Trichlorophenol		U	U	UD	U	UD	1600
2-Chloronaphthalene		U	U	UD	U	UD	330
2-Nitroaniline		U	U	UD	U	UD	1600
Dimethylphthalate		U	U	UD	U	UD	330
Acenaphthylene		U	U	UD	U	UD	330
2,6-Dinitrotoluene		U	U	UD	U	UD	330

PQL = Practical Quantitation Limit

To obtain sample-specific quantitation limit, multiply the PQL by the Dilution Factor.

Client: Ecology & Environment
AEN Job#: L72980430
Project ID: S05-9802-002
Matrix: Soil
Method: 8270

EPA Target Compound List (TCL)
Base Neutral Acids
ug/Kg-Dry Weight

Analyte	Percent Solids	73%	73%	74%	74%	90%	PQL
	Dilution Factor	1	1	2	1	50	
	Method Blank	SS0223	SS0223	SS0223	SS0223	SS0223	
	Client ID	Sediment	Sediment	Sediment	Sediment	Tar	
	Lab ID	1	1	2	2	4	
		001	001R	002D	002	003D	
3-Nitroaniline		U	U	UD	U	UD	1600
Acenaphthene		U	U	UD	U	UD	330
2,4-Dinitrophenol		U	U	UD	U	UD	1600
4-Nitrophenol		U	U	UD	U	UD	1600
Dibenzofuran		U	U	UD	U	UD	330
2,4-Dinitrotoluene		U	U	UD	U	UD	330
Diethylphthalate		U	U	UD	U	UD	330
4-Chlorophenyl phenyl ether		U	U	UD	U	UD	330
Fluorene		U	U	UD	U	UD	330
4-Nitroaniline		U	U	UD	U	UD	1600
4,6-Dinitro-2-methylphenol		U	U	UD	U	UD	1600
N-Nitrosodiphenylamine (1)		U	U	UD	U	UD	330
4-Bromophenyl phenyl ether		U	U	UD	U	UD	330
Hexachlorobenzene		U	U	UD	U	UD	330
Pentachlorophenol		U	U	UD	U	UD	1600
Phenanthrene		U	U	UD	U	UD	330
Anthracene		U	U	UD	U	UD	330
Di-n-butylphthalate		U	U	UD	U	UD	330
Fluoranthene		U	U	UD	U	UD	330
Pyrene		U	U	UD	U	UD	330
Butyl benzyl phthalate		U	U	UD	U	UD	330
3,3'-Dichlorobenzidine		U	U	UD	U	UD	1600
Benzo (a) anthracene		U	U	UD	U	UD	330
Chrysene		U	U	UD	U	UD	330
bis (2-ethylhexyl) phthalate		U	U	UD	U	UD	330
Di-n-octylphthalate		U	U	UD	U	UD	330
Benzo (b) fluoranthene		U	U	UD	U	UD	330
Benzo (k) fluoranthene		U	U	UD	U	UD	330
Benzo (a) pyrene		U	U	UD	U	UD	330
Indeno (1,2,3-cd) pyrene		U	U	UD	U	UD	330
Dibenz (a,h) anthracene		U	U	UD	U	UD	330
Benzo (g,h,i) perylene		U	U	UD	U	UD	330
Date Sampled		2/17/98	2/17/98	2/17/98	2/17/98	2/17/98	
Date Extracted		2/23/98	2/23/98	2/23/98	2/23/98	2/23/98	
Date Analyzed		2/25/98	2/26/98	2/24/98	2/25/98	2/25/98	

(1) - Cannot be separated from Diphenylamine

PQL = Practical Quantitation Limit

To obtain sample-specific quantitation limit, multiply the PQL by the Dilution Factor.

Client: Ecology & Environment
AEN Job#: L72980430
Project ID: S05-9802-002
Matrix: Soil
Method: 8270

EPA Target Compound List (TCL)
Base Neutral Acids
ug/Kg-Dry Weight

Analyte	Percent Solids	90%	57%	57%	59%	93%	PQL
	Dilution Factor	25	50	10	1	50	
	Method Blank	SS0223	SS0223	SS0223	SS0223	SS0223	
	Client ID	Tar	Sediment	Sediment	Sediment	Tar	
	Lab ID	4	3	3	4	5	
Lab ID	003	004D	004	005	006D		
Phenol	UD	UD	UD	U	UD		330
Bis (2-Chloroethyl) ether	UD	UD	UD	U	UD		330
2-Chlorophenol	UD	UD	UD	U	UD		330
1,3-Dichlorobenzene	UD	UD	UD	U	UD		330
1,4-Dichlorobenzene	UD	UD	UD	U	UD		330
Benzyl Alcohol	UD	UD	UD	U	UD		330
1,2-Dichlorobenzene	UD	UD	UD	U	UD		330
2-Methylphenol	UD	UD	UD	U	UD		330
bis (2-Chloroisopropyl) ether	UD	UD	UD	U	UD		330
4-Methylphenol	UD	UD	UD	U	UD		330
N-Nitroso-di-n-propylamine	UD	UD	UD	U	UD		330
Hexachloroethane	UD	UD	UD	U	UD		330
Nitrobenzene	UD	UD	UD	U	UD		330
Isophorone	UD	UD	UD	U	UD		330
2-Nitrophenol	UD	UD	UD	U	UD		330
2,4-Dimethylphenol	UD	UD	UD	U	UD		330
Benzoic Acid	UD	UD	UD	U	UD		1600
bis (2-Chloroethoxy) methane	UD	UD	UD	U	UD		330
2,4-Dichlorophenol	UD	UD	UD	U	UD		330
1,2,4-Trichlorobenzene	UD	UD	UD	U	UD		330
Naphthalene	UD	UD	UD	U	UD		330
4-Chloroaniline	UD	UD	UD	U	UD		330
Hexachlorobutadiene	UD	UD	UD	U	UD		330
4-Chloro-3-methylphenol	UD	UD	UD	U	UD		660
2-Methylnaphthalene	UD	UD	UD	U	UD		330
Hexachlorocyclopentadiene	UD	UD	UD	U	UD		330
2,4,6-Trichlorophenol	UD	UD	UD	U	UD		330
2,4,5-Trichlorophenol	UD	UD	UD	U	UD		1600
2-Chloronaphthalene	UD	UD	UD	U	UD		330
2-Nitroaniline	UD	UD	UD	U	UD		1600
Dimethylphthalate	UD	UD	UD	U	UD		330
Acenaphthylene	UD	UD	UD	U	UD		330
2,6-Dinitrotoluene	UD	UD	UD	U	UD		330

PQL = Practical Quantitation Limit

To obtain sample-specific quantitation limit, multiply the PQL by the Dilution Factor.

Client: Ecology & Environment
AEN Job#: L72980430
Project ID: S05-9802-002
Matrix: Soil
Method: 8270

EPA Target Compound List (TCL)
Base Neutral Acids
ug/Kg-Dry Weight

Analyte	Percent Solids	93%	76%	66%	---	PQL
	Dilution Factor	25	1	1	1	
	Method Blank	SS0223	SS0223	SS0223	SS0223	
	Client ID	Tar	Sediment	Sediment	Method	
	Lab ID	5	5	6	Blank	
Analyte	Lab ID	006	007	008	SS0223	
3-Nitroaniline	UD	U	U	U	U	1600
Acenaphthene	UD	U	U	U	U	330
2,4-Dinitrophenol	UD	U	U	U	U	1600
4-Nitrophenol	UD	U	U	U	U	1600
Dibenzofuran	UD	U	U	U	U	330
2,4-Dinitrotoluene	UD	U	U	U	U	330
Diethylphthalate	UD	U	U	U	U	330
4-Chlorophenyl phenyl ether	UD	U	U	U	U	330
Fluorene	UD	U	U	U	U	330
4-Nitroaniline	UD	U	U	U	U	1600
4,6-Dinitro-2-methylphenol	UD	U	U	U	U	1600
N-Nitrosodiphenylamine (1)	UD	U	U	U	U	330
4-Bromophenyl phenyl ether	UD	U	U	U	U	330
Hexachlorobenzene	UD	U	U	U	U	330
Pentachlorophenol	UD	U	U	U	U	1600
Phenanthrene	UD	U	U	U	U	330
Anthracene	UD	U	U	U	U	330
Di-n-butylphthalate	UD	U	U	U	U	330
Fluoranthene	UD	U	U	U	U	330
Pyrene	UD	U	U	U	U	330
Butyl benzyl phthalate	UD	U	U	U	U	330
3,3'-Dichlorobenzidine	UD	U	U	U	U	1600
Benzo (a) anthracene	UD	U	U	U	U	330
Chrysene	UD	U	U	U	U	330
bis (2-ethylhexyl) phthalate	UD	U	U	U	U	330
Di-n-octylphthalate	UD	U	U	U	U	330
Benzo (b) fluoranthene	UD	U	U	U	U	330
Benzo (k) fluoranthene	UD	U	U	U	U	330
Benzo (a) pyrene	UD	U	U	U	U	330
Indeno (1,2,3-cd) pyrene	UD	U	U	U	U	330
Dibenz (a,h) anthracene	UD	U	U	U	U	330
Benzo (g,h,i) perylene	UD	U	U	U	U	330
Date Sampled	2/17/98	2/17/98	2/17/98	---		
Date Extracted	2/23/98	2/23/98	2/23/98	2/23/98		
Date Analyzed	2/26/98	2/24/98	2/24/98	2/24/98		

(1) - Cannot be separated from Diphenylamine

PQL = Practical Quantitation Limit

To obtain sample-specific quantitation limit, multiply the PQL by the Dilution Factor.

Client: Ecology & Environment
AEN Job#: L72980430
Project ID: S05-9802-002
Matrix: Soil
Method: 8270

EPA Target Compound List (TCL)
Base Neutral Acids
ug/Kg-Dry Weight

Analyte	Percent Solids	90%	57%	57%	59%	93%	PQL
	Dilution Factor	25	50	10	1	50	
	Method Blank	SS0223	SS0223	SS0223	SS0223	SS0223	
	Client ID	Tar 4	Sediment 3	Sediment 3	Sediment 4	Tar 5	
	Lab ID	003	004D	004	005	006D	
3-Nitroaniline		UD	UD	UD	U	UD	1600
Acenaphthene		UD	UD	UD	U	UD	330
2,4-Dinitrophenol		UD	UD	UD	U	UD	1600
4-Nitrophenol		UD	UD	UD	U	UD	1600
Dibenzofuran		UD	UD	UD	U	UD	330
2,4-Dinitrotoluene		UD	UD	UD	U	UD	330
Diethylphthalate		UD	UD	UD	U	UD	330
4-Chlorophenyl phenyl ether		UD	UD	UD	U	UD	330
Fluorene		UD	UD	UD	U	UD	330
4-Nitroaniline		UD	UD	UD	U	UD	1600
4,6-Dinitro-2-methylphenol		UD	UD	UD	U	UD	1600
N-Nitrosodiphenylamine (1)		UD	UD	UD	U	UD	330
4-Bromophenyl phenyl ether		UD	UD	UD	U	UD	330
Hexachlorobenzene		UD	UD	UD	U	UD	330
Pentachlorophenol		UD	UD	UD	U	UD	1600
Phenanthrene		UD	UD	UD	U	UD	330
Anthracene		UD	UD	UD	U	UD	330
Di-n-butylphthalate		UD	UD	UD	U	UD	330
Fluoranthene		UD	UD	UD	U	UD	330
Pyrene		UD	UD	UD	U	UD	330
Butyl benzyl phthalate		UD	UD	UD	U	UD	330
3,3'-Dichlorobenzidine		UD	UD	UD	U	UD	1600
Benzo (a) anthracene		UD	UD	UD	U	UD	330
Chrysene		UD	UD	UD	U	UD	330
bis (2-ethylhexyl) phthalate		UD	UD	UD	U	UD	330
Di-n-octylphthalate		UD	UD	UD	U	UD	330
Benzo (b) fluoranthene		UD	UD	UD	U	UD	330
Benzo (k) fluoranthene		UD	UD	UD	U	UD	330
Benzo (a) pyrene		UD	UD	UD	U	UD	330
Indeno (1,2,3-cd) pyrene		UD	UD	UD	U	UD	330
Dibenz (a,h) anthracene		UD	UD	UD	U	UD	330
Benzo (g,h,i) perylene		UD	UD	UD	U	UD	330
Date Sampled		2/17/98	2/17/98	2/17/98	2/17/98	2/17/98	
Date Extracted		2/23/98	2/23/98	2/23/98	2/23/98	2/23/98	
Date Analyzed		2/25/98	2/24/98	2/25/98	2/26/98	2/25/98	

(1) - Cannot be separated from Diphenylamine

PQL = Practical Quantitation Limit

To obtain sample-specific quantitation limit, multiply the PQL by the Dilution Factor.

Client: Ecology & Environment
AEN Job#: L72980430
Project ID: S05-9802-002
Matrix: Soil
Method: 8270

EPA Target Compound List (TCL)
Base Neutral Acids
ug/Kg-Dry Weight

Percent Solids	93%	76%	66%	---		PQL
Dilution Factor	25	1	1	1		
Method Blank	SS0223	SS0223	SS0223	SS0223		
Client ID	Tar 5	Sediment 5	Sediment 6	Method Blank		
Lab ID	006	007	008	SS0223		
Analyte						
Phenol	UD	U	U	U		330
Bis (2-Chloroethyl) ether	UD	U	U	U		330
2-Chlorophenol	UD	U	U	U		330
1,3-Dichlorobenzene	UD	U	U	U		330
1,4-Dichlorobenzene	UD	U	U	U		330
Benzyl Alcohol	UD	U	U	U		330
1,2-Dichlorobenzene	UD	U	U	U		330
2-Methylphenol	UD	U	U	U		330
bis (2-Chloroisopropyl) ether	UD	U	U	U		330
4-Methylphenol	UD	U	U	U		330
N-Nitroso-di-n-propylamine	UD	U	U	U		330
Hexachloroethane	UD	U	U	U		330
Nitrobenzene	UD	U	U	U		330
Isophorone	UD	U	U	U		330
2-Nitrophenol	UD	U	U	U		330
2,4-Dimethylphenol	UD	U	U	U		330
Benzoic Acid	UD	U	U	U		1600
bis (2-Chloroethoxy) methane	UD	U	U	U		330
2,4-Dichlorophenol	UD	U	U	U		330
1,2,4-Trichlorobenzene	UD	U	U	U		330
Naphthalene	UD	U	U	U		330
4-Chloroaniline	UD	U	U	U		330
Hexachlorobutadiene	UD	U	U	U		330
4-Chloro-3-methylphenol	UD	U	U	U		660
2-Methylnaphthalene	UD	U	U	U		330
Hexachlorocyclopentadiene	UD	U	U	U		330
2,4,6-Trichlorophenol	UD	U	U	U		330
2,4,5-Trichlorophenol	UD	U	U	U		1600
2-Chloronaphthalene	UD	U	U	U		330
2-Nitroaniline	UD	U	U	U		1600
Dimethylphthalate	UD	U	U	U		330
Acenaphthylene	UD	U	U	U		330
2,6-Dinitrotoluene	UD	U	U	U		330

PQL = Practical Quantitation Limit

To obtain sample-specific quantitation limit, multiply the PQL by the Dilution Factor.

Client: Ecology & Environment
IEA Job#: L72980430
Project ID: S05-9802-002

Polarized Light Microscopy Results

Lab Sample ID: 003	Matrix: Soil
Client ID: TAR 4	Sample Date: 2/17/98

% Type of Asbestos	Non-Asbestos Components	Date Analyzed
U	20-25% Cellulose 70-00% Binder	2/24/98

Lab Sample ID: 006	Matrix: Soil
Client ID: TAR 5	Sample Date: 2/17/98

% Type of Asbestos	Non-Asbestos Components	Date Analyzed
U	35-40% Cellulose 60-65% Binder	2/24/98

Client: Ecology & Environment
IEA Job#: L72980430
Project ID: S05-9802-002

Wet Chemistry Analytes

Lab Sample ID: 001	Matrix: Soil
Client ID: Sediment 1	Sample Date: 2/17/98

Analyte	Method	Result	PQL	Units	Date Analyzed
Total Petroleum Hydrocarbons	418.1	84.8	10.0	mg/Kg	3/5/98

Lab Sample ID: 002	Matrix: Soil
Client ID: Sediment 2	Sample Date: 2/17/98

Analyte	Method	Result	PQL	Units	Date Analyzed
Total Petroleum Hydrocarbons	418.1	72.1	10.0	mg/Kg	3/5/98

Lab Sample ID: 003	Matrix: Soil
Client ID: Tar 4	Sample Date: 2/17/98

Analyte	Method	Result	PQL	Units	Date Analyzed
Total Petroleum Hydrocarbons	418.1	47200	10.0	mg/Kg	3/5/98

Lab Sample ID: 004	Matrix: Soil
Client ID: Sediment 3	Sample Date: 2/17/98

Analyte	Method	Result	PQL	Units	Date Analyzed
Total Petroleum Hydrocarbons	418.1	979	10.0	mg/Kg	3/5/98

Appendix C

RCMS Cost Estimate

Client: Ecology & Environment
IEA Job#: L72980430
Project ID: S05-9802-002

Wet Chemistry Analytes

Lab Sample ID: 005			Matrix: Soil		
Client ID: Sediment 4			Sample Date: 2/17/98		

Analyte	Method	Result	PQL	Units	Date Analyzed
Total Petroleum Hydrocarbons	418.1	55.4	10.0	mg/Kg	3/5/98

Lab Sample ID: 006			Matrix: Soil		
Client ID: Tar 5			Sample Date: 2/17/98		

Analyte	Method	Result	PQL	Units	Date Analyzed
Total Petroleum Hydrocarbons	418.1	26900	10.0	mg/Kg	3/5/98

Lab Sample ID: 007			Matrix: Soil		
Client ID: Sediment 5			Sample Date: 2/17/98		

Analyte	Method	Result	PQL	Units	Date Analyzed
Total Petroleum Hydrocarbons	418.1	U	10.0	mg/Kg	3/5/98

Lab Sample ID: 008			Matrix: Soil		
Client ID: Sediment 6			Sample Date: 2/17/98		

Analyte	Method	Result	PQL	Units	Date Analyzed
Total Petroleum Hydrocarbons	418.1	U	10.0	mg/Kg	3/5/98

Contractor
Equipment by CLIN

Page: 1

Projection Name: Celotex (CERCLA)
Projection Type: Initial

Date: 06/02/98

CLIN	Equipment Description	Ctr. Code	Hrs/ Days	Qty	Reg Days	Mob Days	Stby Days	Decon Days	Task Code	Task Description	Projected Cost	Total Cost
10910	Car-Passenger	SUP5	10.0	1	7	0	0	0	03	Disposal	207	207
13610	Pickup-2 wheel drive	SUP5	10.0	1	7	0	0	0	03	Disposal	271	271
39520	Uni Loader-w/ forks	SUP5	10.0	1	7	0	0	0	03	Disposal	582	582
50110	Meter/Monitor-Explosion	SUP5	10.0	1	7	0	0	0	03	Disposal	52	52
50120	Meter/Monitor-RNu (PID)	SUP5	10.0	1	7	0	0	0	03	Disposal	123	123
50125	Meter/Monitor-CVA (FID)	SUP5	10.0	1	7	0	0	0	03	Disposal	194	194
50130	Meter/Monitor-Oxygen	SUP5	10.0	1	7	0	0	0	03	Disposal	129	129
50135	Barrel-Crusher	SUP5	10.0	1	7	0	0	0	03	Disposal	1293	1293
											=====	=====
(Equipment Totals:)											2,851	2,851

(Including Contractor Contingency:20.00%) 3,421

(Including Site Contingency:15.00%) 3,849

Government
Equipment by CLIN

Page: 1

Projection Name: Celotex (CERCLA)

Date: 06/02/98

Projection Type: Initial

CLIN	Equipment Description	Ctr. Code	Hrs/ Days	Qty	Reg Days	Mob Days	Stby Days	Decon Days	Task Code	Task Description	Projected Cost	Total Cost
10910	Car-Passenger	EPA	10.0	1	7	0	0	0	03	Disposal	0	0
13620	Pickup-4 wheel drive	TAT	10.0	1	7	0	0	0	03	Disposal	0	0
(Equipment Totals:)											0	0

(Including Site Contingency:15.00%) 0

Contractor
Other Direct Costs (ODC)

Page: 1

Projection Name: Celotex (CERCLA)
Projection Type: Initial

Date: 06/02/98

Description	Ctr. Vend Code Code	Unit Cost Units	Task Task Code Description	Projected Cost	Total Cost
85gal steel cwrpacks	SUP5	Disposal	53.57 Each 25.0 03 Disposal	1435	1435
Asbestos Disposal	SUP5	Disposal	500.00 Each 1.0 03 Disposal	536	536
Fuel-Auto	SUP5	Fuel	1.15 Gal 70.0 03 Disposal	86	86
Lodging	SUP5	Lodging	1750.00 Bulk 1.0 03 Disposal	1750	1750
Perdiem	SUP5	Perdiem	1050.00 Bulk 1.0 03 Disposal	1050	1050
PPE	SUP5	Personal Protection	85.00 Each 100.0 03 Disposal	9108	9108
Profile Analysis	SUP5	Analysis	600.00 Each 3.0 03 Disposal	1929	1929
e Approval Fee	SUP5	Analysis	500.00 Each 3.0 03 Disposal	1607	1607
Rolloff Box/Asbestos	SUP5	Disposal	400.00 Each 1.0 03 Disposal	429	429
(ODC Totals:)				17,930	17,930

(Including Contractor Contingency:20.00%)

21,516

(Including Site Contingency:15.00%)

24,200

Government
Personnel by CLIN

Page: 1

Projection Name: Celotex (CERCLA)
Projection Type: Initial

Date: 06/02/98

CLIN	Job Description	Ctrl. Code	Regular Hrs/Day	O.T. Hrs/Day	Regular Rate	O.T. Rate	No. of Qty	Task Days	Task Code	Task Description	Projected Cost	Total Cost
S1-05-01	On Scene Coordinator EPA		3.0	2.0	30.00	30.00	1	7	03	Disposal	5817	5817
S4-15-01	Engineer / Civil	TAT	8.0	2.0	35.00	35.00	1	7	03	Disposal	2450	2450
(Personnel Totals:)											8,267	8,267
(Including Site Contingency:15.00%)												9,507

Government
Other Direct Costs (ODC)

Page: 1

Projection Name: Celotex (CERCLA)
Projection Type: Initial

Date: 06/02/98

Description	Ctr. Code	Vend Code	Cost Type	Unit Cost	Units	Qty	Task Code	Task Description	Projected Cost	Total Cost
Lodging	EPA		Lodging	350.00	Bulk	1.0	03	Disposal	350	350
Lodging	TAT		Lodging	350.00	Bulk	1.0	03	Disposal	791	791
Perdiem	EPA		Perdiem	210.00	Bulk	1.0	03	Disposal	210	210
Perdiem	IAT		Perdiem	210.00	Bulk	1.0	03	Disposal	475	475
(ODC Totals:)									1,826	1,826

(Including Site Contingency:15.00%) 2,100

Page: 1

Date: 06/02/98

CLIN	Job Description	Ctr. Code	Regular Hrs/Day	O.T. Hrs/Day	Regular Rate	O.T. Rate	No. of Qty	Task Days	Task Code	Task Description	Projected Cost	Total Cost
S1-05-01	Response Manager	SUP5	8.0	2.0	55.86	83.80	1	7	03	Disposai	4609	4609
S2-05-01	Equipment Operator	SUP5	8.0	2.0	40.97	61.46	1	7	03	Disposal	3380	3380
S2-15-01	Laborer	SUP5	8.0	2.0	32.90	49.35	3	7	03	Disposal	8143	8143
											=====	=====
(Personnel Totals:)											16,132	16,132
(Including Contractor Contingency:20.00%)												19,358
(Including Site Contingency:15.00%)												21,778

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Cost Summary

Page: 1

Projection Name: Celotex (CERCLA)

Date: 06/02/98

Projection Type: Initial

Prime Contractor: EQ5

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	Projection	Archive	Total
CONTRACTOR			
Personnel Cost	16132	0	16132
Equipment Cost	2851	0	2851
Other Direct Cost	17930	0	17930
	-----	-----	-----
Total for Contractor	36913	0	36913
Contractor Contingency:20.00%			7383

Including Contractor Contingency			44296
Site Contingency:15.00%			5537

Including Site Contingency			49833
GOVERNMENT			
Personnel Cost	8267	0	8267
Equipment Cost	0	0	0
Other Direct Cost	1826	0	1826
	-----	-----	-----
Total for Government	10093	0	10093
Site Contingency: 15.00%			1514

Including Site Contingency			11607
			=====
PROJECT TOTAL			61440

Page: 1

Date: 06/02/98

15

Government
Equipment by CLIN

Page: 1

Projection Name: Celotex (OPA)
Projection Type: Initial

Date: 06/02/98

CLIN	Equipment Description	Ctr. Code	Hrs/ Days	Qty	Reg Days	Mob Days	Stby Days	Decon Days	Task Code	Task Description	Projected Cost	Total Cost
10910	Car-Passenger	EPA	10.0	1	75	0	0	0	03	Disposal	0	0
13620	Pickup-4 wheel drive	TAT	10.0	1	75	0	0	0	03	Disposal	0	0
72320	Computer-Portable PC	TAT	10.0	1	75	0	0	0	03	Disposal	0	0
72340	Computer-Laser Printer	TAT	10.0	1	75	0	0	0	03	Disposal	0	0
73110	Copier-	TAT	10.0	1	75	0	0	0	03	Disposal	0	0
74510	Facsimile Machine-	TAT	10.0	1	75	0	0	0	03	Disposal	0	0

(Equipment Totals:) 0

(Including Site Contingency:15.00%) 0

Page: 1

Date: 06/02/98

Description	Ctr. Vend		Unit		Task Task		Projected	Total				
	Code	Code	Cost	Type	Cost	Units			Qty	Code	Description	Cost
Asphalt Disposal	EQ5		Disposal		21.00	Tons	45000.0	03	Disposal		1012568	1012568
Computer	EQ5		Equipment		800.00	Each	1.0	03	Disposal		857	857
Copier	EQ5		Equipment		450.00	Each	1.0	03	Disposal		482	482
Fax Machine	EQ5		Equipment		450.00	Each	1.0	03	Disposal		482	482
Fuel-Auto	EQ5		Fuel		1.15	Gal	750.0	03	Disposal		924	924
Fuel-Diesel	EQ5		Fuel		1.05	Gal	1000.0	03	Disposal		1125	1125
Laser Printer	EQ5		Equipment		500.00	Each	1.0	03	Disposal		536	536
Lodging	EQ5		Lodging		11250.00	Bulk	1.0	03	Disposal		12054	12054
Lodging	SUP5		Lodging		31200.00	Bulk	1.0	03	Disposal		31200	31200
Perdiem	EQ5		Perdiem		6750.00	Bulk	1.0	03	Disposal		7233	7233
Perdiem	SUP5		Perdiem		18720.00	Bulk	1.0	03	Disposal		18720	18720
PPE	SUP5		Personal Protection		85.00	Each	300.0	03	Disposal		27323	27323
										=====	=====	
(ODC Totals:)										1,113,504	1,113,504	
(Including Contractor Contingency:20.00%)											1,336,205	
(Including Site Contingency:15.00%)											1,533,230	

Government
Other Direct Costs (ODC)

Page: 1

Projection Name: Celotex (OPA)
Projection Type: Initial

Date: 06/02/98

Description	Con. Vnd Code Code Cost Type	Unit Cost Units Qty	Task Task Code Description	Projected Cost	Total Cost
Auto-Fuel	EPA Fuel	1.15 Gal 500.0	03 Disposal	616	616
Fuel-Auto	EAT Fuel	1.15 Gal 500.0	03 Disposal	616	616
Lodging	EPA AVIS Lodging	3750.00 Bulk 1.0	03 Disposal	3750	3750
Lodging	EAT Lodging	3750.00 Bulk 1.0	03 Disposal	8475	8475
Perdiem	EPA Perdiem	2250.00 Bulk 1.0	03 Disposal	2250	2250
Perdiem	EAT Perdiem	2250.00 Bulk 1.0	03 Disposal	5085	5085
(ODC Totals:)				20,792	20,792

(Including Site Contingency:15.00%)

23,911

Contractor
Personnel by CLIN

Page: 1

Projection Name: Celotex (OPA)

Date: 06/02/98

Projection Type: Initial

CLIN	Job Description	Ctr. Code	Regular Hrs/Day	O.T. Hrs/Day	Regular Rate	O.T. Rate	Qty	No. of Days	Task Code	Task Description	Projected Cost	Total Cost
S1-05-01	Response Manager	EQ5	8.0	2.0	50.81	50.81	1	75	03	Disposal	38108	38108
S1-10-01	Foreman	EQ5	8.0	2.0	40.75	40.75	1	75	03	Disposal	32748	32748
S2-10-01	Field Clerk/Typist	EQ5	8.0	2.0	27.78	41.67	1	75	03	Disposal	24557	24557
S2-05-01	Equipment Operator	SJP5	8.0	2.0	40.97	61.46	4	75	03	Disposal	144871	144871
S2-15-01	Laborer	SUP5	8.0	2.0	32.90	49.35	4	75	03	Disposal	116333	116333
S2-20-01	Truck Driver	SUP5	8.0	2.0	36.68	55.03	4	6	03	Disposal	10376	10376

(Personnel Totals:) 366,993 366,993

(Including Contractor Contingency:20.00%) 440,392

(Including Site Contingency:15.00%) 495,441

Government
Personnel by CLIN

Page: 1

Projection Name: Celotex (OPA)
Projection Type: Initial

Date: 06/02/98

CLIN	Job Description	Ctrl. Code	Regular Hrs/Day	O.T. Hrs/Day	Regular Rate	O.T. Rate	Qty	No. of Days	Task Code	Task Description	Projected Cost	Total Cost
S1-05-01	On Scene Coordinator EPA	EPA	3.0	2.0	53.00	53.00	1	75	03	Disposal	110108	110108
S4-15-01	Engineer, Civil	TAT	8.0	2.0	30.00	30.00	1	75	03	Disposal	50850	50850
(Personnel Totals:)											160,958	160,958

(Including Site Contingency:15.00%)

185,102

Cost Summary

Page: 1

Projection Name: Celotex (OPA)

Date: 06/02/98

Projection Type: Initial

Prime Contractor: EQ5

CONTRACTOR	Projection	Archive	Total
Personnel Cost	366993	0	366993
Equipment Cost	110895	0	110895
Other Direct Cost	1113504	0	1113504
	-----	-----	-----
Total for Contractor	1591392	0	1591392
Contractor Contingency:20.00%			318278

Including Contractor Contingency			1909670
Site Contingency:15.00%			238709

Including Site Contingency			2148379
MENT			
Personnel Cost	160958	0	160958
Equipment Cost	0	0	0
Other Direct Cost	20792	0	20792
	-----	-----	-----
Total for Government	181750	0	181750
Site Contingency: 15.00%			27263

Including Site Contingency			209013
			=====
PROJECT TOTAL			2357392